The political economy of degrowth

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THE POLITICAL ECONOMY OF DEGROWTH

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Abstract

What is degrowth and what are its implications for political economy? Divided in three parts, this dissertation explores the *why*, *what*, and *how* of degrowth.

The first part (**Of growth and limits**) studies the nature, causes, and consequences of economic growth. *Chapter 1: Understanding economic growth* answers a series of questions about the nature of economic growth: What is it exactly that grows? By how much does it grow? When and where does it grow? How does it grow? And why should it grow? The three following chapters develop a triple objection to economic growth as no longer possible (*Chapter 2: Biophysical limits to growth*), plausible (*Chapter 3: Socioeconomic limits to growth*), and desirable (*Chapter 4: Social limits of growth*).

The second part (**Elements of degrowth**) is about the idea of degrowth, especially its history, theoretical foundations, and controversies. *Chapter 5: Origins and definitions* traces the history of the concept from 1968 to 2018. *Chapter 6: Theoretical foundations* presents a normative theory of degrowth as de-economisation, that is a reduction in importance of economic thoughts and practices. *Chapter 7: Controversies* reviews the attacks the concept has received. Whereas the first part diagnosed economic growth as the problem, this part offers a solution. The take-home message is that degrowth is not only a critique but also a fully-fledged alternative to the growth society.

The third part (**Recipes for degrowth**) is about the transition from a growth economy to a degrowth society. It opens with an inventory of the policies that have been mobilised by degrowthers until today (*Chapter 8: Strategies for change*). The three following chapters on property (*Chapter 9: Transforming property*), work (*Chapter 10: Transforming work*), and money (*Chapter 11: Transforming money*) go from theory to practice and translate the values and principles of degrowth into operational transition strategies. *Chapter 12: Transition strategy* presents a method to study the interactions between degrowth policies in order to craft effective transition strategies. The central claim of this final part is that degrowth is a powerful conceptual tool to think about societal transformations for social-ecological justice.

Keywords: Degrowth, post-growth, political economy, political ecology

Résumé

Qu'est-ce que la décroissance et quelles sont ses implications pour l'économie politique ? Divisée en trois parties, cette thèse explore le *pourquoi*, le *quoi*, et le *comment* de la décroissance.

La première partie (**De la croissance et des limites**) étudie la nature, les causes, et les conséquences de la croissance économique. *Chapitre 1 : Comprendre la croissance économique* répond à plusieurs questions : Qu'est-ce qui croît exactement ? À quelle vitesse ? Quand et où est-ce que ça croît ? Comment est-ce que ça croît ? Et pourquoi est-ce que ça devrait croître ? Les trois chapitres suivants développent une triple objection à la croissance économique qui n'est plus possible (*Chapitre 2 : Limites biophysiques de la croissance*), plausible (*Chapitre 3 : Limites socioéconomiques de la croissance*), et souhaitable (*Chapitre 4 : Limites sociales à la croissance*).

La deuxième partie (**Éléments de décroissance**) porte sur l'idée de la décroissance, en particulier son histoire, ses fondements théoriques, et ses controverses. Le *Chapitre 5 : Origines et définitions* retrace l'histoire du concept de 1968 à 2018. Le *Chapitre 6 : Fondements théoriques* présente une théorie normative de la décroissance comme déséconomisation, c'est-à-dire une réduction de l'importance de la rationalité et des pratiques économiques. Le *Chapitre 7 : Controverses* passe en revue les attaques reçues par le concept. Si la première partie a diagnostiqué la croissance économique comme étant le problème, cette partie propose une solution. L'argument principal est que la décroissance n'est pas seulement une critique mais aussi une alternative complète à la société de croissance.

La troisième partie (**Recettes de décroissance**) concerne la transition d'une économie de croissance à une société de décroissance. La partie s'ouvre sur un inventaire des politiques mobilisées par les décroissants jusqu'à aujourd'hui (*Chapitre 8 : Stratégies de changement*). Les trois chapitres suivants, sur la propriété (*Chapitre 9 : Transformer la propriété*), le travail (*Chapitre 10 : Transformer le travail*) et l'argent (*Chapitre 11 : Transformer l'argent*) passent de la théorie à la pratique et transforment les valeurs et les principes de la décroissance en stratégies de transition. Le *Chapitre 12 : Stratégie de transition* décrit une méthode pour étudier l'interaction entre plusieurs politiques de décroissance, et cela pour mieux planifier la transition. Le message central de cette troisième partie est que la décroissance est un outil conceptuel puissant pour réfléchir à une transition vers la justice sociale et écologique.

Mots-clés : Décroissance, post-croissance, économie politique, écologie politique

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Introduction

The word that is upsetting the world

Context

THE future has been cancelled. I say this both figuratively and literally. On the one hand, it seems we have lost our collective capacity to imagine life outside of the present; on the other, the mounting damage inflicted on the biosphere is narrowing down the diversity of futures desirable to live in.

We have become prisoners of the present. Like humans in the film *The Matrix* (1999), we blue-pill through our day-to-day business, unable to envision that life could be different, "condemned to live in the world in which we live" (Furet, 1995: 572, mt).[1] In this state of "presentism" (Hartog, 2003), the past looks retrograde and the future wishful; there is, can be, and should be nothing but the present. The Zapatista call it the *domination of the perpetual present* (as studied in Baschet, 2018), the perception of the present as the horizon of all possibilities with hypothetical futures defined only as slight variations of what already exists. Luhmann (1976: 141) has a striking term for it; he says that the future is "defuturised," that is emptied from part of its potential. In such a state, today repeats itself with no significant change; society stays immobile because There Is No Alternative when having reached "the end of history" (Fukuyama, 1992).

Of all moments, this is a particularly untimely one to be apathetic. At the very same time I am writing these words, the Amazon forest is going up in flames. There is no need to engage in the usual inventory of ecological catastrophes and social calamities, because numbers about "the age of environmental breakdown" (Laybourn-Langton et al., 2019) are at the fingertips of anybody who is willing to look. Suggested keywords: *global warming, collapsing fisheries, deforestation, eroding soils, maltreatment of nonhumans, groundwater contamination, dry wells, air pollution, eutrophication, water salinization, acidic deposition, stratospheric ozone loss, sea-level rise, melting of ice caps, toxic chemical waste, biodiversity loss, ocean acidification, resource depletion, antibiotic resistance, desertification, nuclear waste*. In the few years it took to write this monograph, the world has changed for the ecological worse with the onslaught on nature reaching an unprecedented intensity.

[1] I indicate what has been personally translated by adding "mt" to the reference (standing for "my translation").

Here, it is crucial to recognise that nature is not ablaze in a joyous bonfire. The daily life of a large part of humanity is anything but cheerful. *Forced migration, mass unemployment, widening inequality, persistent racism and sexism, rising xenophobia, obesity, hunger, destitution, slavery, drug and alcohol abuse, stress and depression, violent conflicts*; other keywords that make for spine-chilling online searches. I doubt that this claim needs an elaborate defence. From the French Yellow Vests and the Occupy Movement to the Indignados and Black Lives Matter, the calls for social justice are becoming all the more difficult to ignore.

There is something else that needs to be said here. This social-ecological fire cannot be regarded as a united decision from humanity to have a "short, but fiery, exciting and extravagant life rather than a long, uneventful and vegetative existence" (Georgescu-Rogen, 1976: 35). "We" are not "all" in the same boat facing a "common" human predicament – there is no such thing as the "anthropocene," understood as a geological epoch in which an abstract, homogenous *humanity* is altering the Earth's processes.[1] Climate change is already a reality for the majority of people and the culprits of that environmental tragedy are few.

The bottom half of the world population owns less than 1% of global wealth (Global Wealth Report, 2018: 9). Compare this to the richest decile that owns 85%, or even the top centile that claims half of all existing wealth (ibid.). With their crumb of world wealth, the poorest 3.5 billion people cause only 10% of global greenhouse gas emissions while the richest 10% generate half of all emissions (Chancel and Piketty, 2015).[2] The top 1% most polluting individuals are responsible for a larger share of total absolute emissions than the 50% least emitting people (Piketty, 2019: 777, mt). These basic facts are now well known. The collapse of ecosystems is not a "we" problem; it is the collateral damage of the grotesque lifestyle of a handful of Western, Educated, Industrialised, Rich, and Democratic weirdos.[3]

It is directly for these extravagant people (and for the sake of all people) that this thesis is written. As to name them, one could say *affluent nations* in the sense of high median income countries. But the precision should not stop there; what I mean is affluence wherever it is found, namely "that small class which wears several men's clothes, eats several men's dinners, occupies several families' houses, and lives several men's lives" (Tawney, 1920: 38). Throughout the monograph, I will not use the otherwise common division between so-called *developed*, *modern*, *advanced*, or *most-advanced* and *developing*, *emerging*, *under-developed*, or *Third-World* countries. When I cannot resort to more precise appellation, I will speak of the global North to refer to the richest countries (think OECD) and global South[4] for all other nations. In this divide, let us not forget that it is the South that is the "majority world" (using the term of Bangladeshi photographer Shahidul Alam), meaning that they represent the largest

[1] Perhaps these terms are more accurate: "capitalocene" (Moore et al., 2016), "plutocene" (Morisini, 2015), "misanthropocene" (Patel, 2013), "manthropocene" (Raworth, 2014), "sociocene" (Connell, 2017), "anthrobscene" (Parikka, 2015), "econocene" (Norgaard, 2019), or my personal favourite, "growthocene" (Chertkovskaya and Paulsson, 2016).

[2] One could be even more precise. Griffin and Heede (2017) calculate that 100 companies are responsible for 70% of all greenhouse gas emissions and Kenner (2019a), the creator of *The Polluter Elite Database*, tracks down all the "extremely rich individuals whose net worth, luxury lifestyle and political influence all rest on wealth that is derived from investments in polluting activities" (for more details, see Kenner, 2019b).

[3] I am not implying here that this is only an individual problem. If the poorest 3.5 billion people are responsible for 10% of global greenhouse gas emissions, this is also the precise same volume of emissions that the four most polluting corporations (Chevrons, Exxon, BP, and Shell) produced together since 1965 (Heede, 2019 cited in Watts, 2019).

[4] Let us be careful with the term "global South." The "South" is neither a geographical notion nor a unified entity. It is only a metaphor to refer to the "excluded, silenced and marginalized populations that within our current social-economic-political system experience poverty, displacement, pollution and destruction" (Hanaček et al., 2020: 9).

share of humans on Earth. This dissertation is not about human nature; it studies the destructive dynamics of the high-impact lifestyle of the minority world.

Talking of *destructive dynamics* is not an under-statement. This is not a standalone crisis or one special challenge, this is a "perfect moral storm" (Gardiner, 2006). Not only ecological, economic, social, or cultural, but all these at once. Building on Rosa (2013), I like to think of this storm as the result of four desynchronizations: an *ecological crisis* with resources being used faster than they can replenish themselves; a *democratic crisis* with market dynamics outpacing political deliberations; an *economic crisis* with the world of finance losing touch with the real economy; and a *psycho-crisis* with a fastening pace of social life that leaves some people behind. Change the labels if you wish but the situation remains. A number of turbulences interacting in a complex manner that make the current maelstrom the ultimate what-is-to-be-done question.

My research is motivated by a simple idea: the economy is the beating heart of this multi-faceted storm. As an introduction into that insight, imagine that you have 24 hours to deteriorate ecosystems as much as you can, except that you cannot use anything that has previously been purchased, nor can you purchase anything. What could you do? Breathe out CO_2? Relieve yourself in a water stream? Rip up some seedlings or wring the neck of some rare bird you somehow manage to catch with your bare hands? In the end, not much. This should have us pause for a moment. If I now give you purchasing power, the damage will get real. You could fly to Tokyo and spurt 2.8 tons of CO_2eq into the stratosphere or shop for a computer and emit 1.2 tons of CO_2eq everywhere alongside its life cycle, you could buy a cistern of glyphosate and pay people to discharge it into the wild, you could invest all your savings into oil drilling projects in the Arctic sea, or purchase the right to shoot a rhino.[1]

With purchasing power comes pulverising power. This is, however, nothing new. Wealth, regardless of the form it takes, brings power. What is more surprising is that you could do all of that and be lauded for it. I could fly to Tokyo to speak about degrowth and be praised for my effort in raising awareness; I could acquire a new computer to launch a social cause start-up to respectfully earn a living; my glyphosate spill would be pardoned for its positive impact on employment, my investment would reap a juicy return that I could use to set up my own windfarm, and my shot rhino praised for bringing money into Namibian local conservation projects. I buy, I break, and this seems to be all fine.

The tragedy of economy is that with great purchasing power comes no great responsibility. This is when the economy becomes an excuse: if I do not fly, someone else will; I need to attend that conference to find a job; I did not know my savings were invested in extractive projects; and I did not put a price on the rhino's head, I am only a consumer. Behind all social and ecological injustices, there is someone that is "just doing their job" or something whose impact is "just a drop in the sea."[2] Like a well-oiled guilt-dissolving machine, the economy sustains an everyday "banality of evil" (Arendt, 1963). This is not to say that all workers and consumers are apologists for injustice but rather that exploitation is a structural property of the current economic system.

[1] I am using numbers from the carbon life cycle analysis conducted by Ademe (2017 cited in CGDD, 2019: 76).

[2] Including the gardener currently using petrol to blow inexistent leaves off the pavement (we are in June). I interrupted my writing to ask him how he felt about that task and he told me in confidence that he knew it was pointless and that the machine caused a ringing in his ears but that he was, and I quote, "just doing his job."

Somehow, certain economic ideas and institutions come to legitimise practices that are utterly *stupid*. Not "the economy, stupid" as Bill Clinton's strategist James Carville would say but "the *stupid* economy." I think *stupid* is the correct word, in its etymological Latin sense from *stupere* "to be amazed or stunned." How else to react while witnessing a select minority of humanity sustaining an "imperial mode of living" (Brand and Wissen, 2013) at the expense of everybody else, including themselves in the long term? It shows "a great lack of intelligence or common sense," which is the definition the Oxford dictionary gives for the word "stupid." Understanding how we – Northern societies – have collectively built the capacity for mass social-ecological exploitation is one of the objectives of this work.

Lest there be any misunderstanding: the present research is not a declaration of war against economy. My critique of "the economy" is a broad banner for a more precise attack on certain forms of economic organisation. My target is not the economy understood in its anthropological sense as communities providing for their needs by harvesting, manufacturing, trading, investing, or performing any other activities to ensure social reproduction. What I am attacking is *growthism*, a peculiar economic system with specific features such as private property of the means of production, for-profit entrepreneurship, general-purpose money, wage-labour, a cult of productivity, an extractivist relationship with nature, and a generalised longing for commodities. The nature of this economy is problematic and its (constantly increasing) scale turns a small problem into a global catastrophe.

Of all the diverse quirks and oddities one finds among human societies, the fact that the infinite accumulation of money has been heralded as the supreme road to prosperity does not raise many eyebrows, especially among economists. If there is a problem with economic growth, it has to do with not having enough of it. Growth for employment, growth against poverty, growth for enjoyment, growth against inequality, growth for State welfare or against international warfare. The more growth, the better. But what is the point of growth if it fails to deliver on its promises while jeopardising hospitable conditions for life on Earth? This is the paradox that motivates the present study: it is precisely what we desire most that is the root cause of our ills. The system is not in crisis, it is thriving, and that is what should get us worried. Put differently, "growth is not in crisis, it *is* the crisis" (Lepesant, 2013: 149, mt).

Perhaps such a grow-big-or-go-home mindset had some appeal to the destitute of medieval Europe or early settlers dreaming of warmth and comfort. The one question that should puzzle economists is the following: Why is the logic of growth still present in affluent societies? Already in 1930, British economist J.M. Keynes predicted that by the turn of the century the "economic problem" of scarcity would have been solved. But reality has proven Keynes wrong and the economy has risen in importance to the point where describing it as a *beating heart* resonates with how essential it is now considered to be. In the current economic architecture, without regularly increasing doses of Gross Domestic Product (GDP), several crucial institutions would cease to function (e.g. a welfare State that finances its budget via the taxation of market activities and a work culture where only paid employment is considered a valid social contribution). Damned if you grow, damned if you don't.

One could say: "time to wake up!" but this would be a catch-22. To wake up, one must be dreaming. What should worry us most about the situation we find ourselves in is that we have lost the ability to do precisely that. It is easier today to imagine the end of the world than the end of economic growth. Under the disguise of a discourse of politics of the possible where

revolutionaries are summoned to be "realistic," utopias are being withered to tweaks to the existing order. But "realism," as Bernanos wrote in the prologue of *Under the Sun of Satan* (1926), "is the good conscience of bastards" in a system where business as usual rhymes with exploitation. Before being able to make a radically different choice, we must first understand that what type of economy we have is itself a choice. Today's economy is not the result of centuries of evolutionary betterment, and social-ecological injustice has nothing to do with human nature or destiny. The future is not to be discovered but to be invented, said philosopher Gaston Berger (1896-1960), and so we must empower ourselves to become the designers of more desirable futures.

So it is time to *dream up* instead! If the future is a prisoner of the present, it means we should "liberate the future" (Illich, 1971, mt). Instead of squabbling about which variant of capitalism to adopt, we must broaden our horizon of possibilities beyond the pursuit of economic growth and beyond economic rationality itself. This is a breakout from the prevailing common sense that sees the production and consumption of commodities as the supreme achievement of the human race. It is an invitation to imagine how society could provide for its needs without abiding to the mad logic of forever more.

Some would stop me right here quoting Marx (1873: 99) who "do[es] not write recipes for the cook-shops of the future." Put back into context, this statement was an attack against the utopian socialists of the mid-19th century (Fourier, Owen, Saint-Simon) who produced elaborate blueprints of ideal societies. Laudable ideals, Marx thought, but wishful for that they included no convincing plans on how to make them happen.[1]

But Karl Marx was wrong; there is value in political dreaming. What he underestimated is the power of utopias to educate desire, to fuel the social imaginary. Marx dismissed utopias without realising that these outlandish plans were the visible tip of a more diffuse revolutionary momentum. Yes of course, too-precise blueprints become dangerous when they are turned into immutable dogmas, but not all utopias are written in stone. Apparent oxymorons like "real utopia" (Wright, 2013), "concrete utopia" (Bloch, 1954) or "nowtopia" (Carlsson, 2008) emphasise that utopias are performative fictions that are rooted in the present and as such constantly evolving. Before being installed on roofs, solar panels had to be installed in minds. And to be installed in minds, they had to be described in more precise terms than a general desire for "cleaner energy." The production of utopias is nothing less but the process by which societies dream, and without them, there could be no revolutions.

Time has come to stop trying to predict the future of the economy and start inventing the economy of the future. This is precisely the purpose of the present study. Out of all the potential futures being held prisoners of the present, I have selected the idea of degrowth, which I believe to be the most promising to escape the social-ecological dead-end we find ourselves in. It is, in other words, our best shot to uncancel the future. Since its emergence in France at the beginning of the 2000s, *décroissance* (French for "degrowth") has remained a relatively

[1] Georgescu-Roegen (1975: 369) also dismissed blueprints: "undoubtedly the current growth must cease, and, be reversed. But anyone who believes that he [sic] can draw a blueprint for the ecological salvation of the human species does not understand the nature of evolution, or even of history – which is that of a permanent struggle in continuously novel forms, not that of a predictable, controllable physico-chemical process, such as boiling an egg or launching a rocket to the moon." And so did Polanyi reflecting on the first 30 years of his career, which he spent, and those are his words, "strain[ing his] powers in the futile directions of stark idealism" (cited in Dale, 2010: 15).

esoteric idea for which little knowledge is available and even less is accessible. In this dissertation, I shall attempt to remedy this.

Research strategy

This part details the analytical architecture of the dissertation. I start with a review of the literature where I point to three weaknesses of the concept of degrowth as it has been developed so far: (1) unclear definition, (2) weak policy prescriptions, and (3) lack of transition scenarios. I then justify the rationale behind my choice of topic and its framing, present the set of research questions that I intend to answer, and explain why it matters that these are answered and how I am planning to answer them.

Literature review

Degrowth is a young concept with a fairly small literature. In July 2016, Vandeventer et al. (2019: 277) counted 179 peer-reviewed articles on Web of Science using "degrowth" as keyword. Three years later, Demaria et al. (2019: 435) counted more than 400 of them. There have been twelve academic special issues since 2010 and I have found 25 masters and 15 PhD theses written directly about degrowth in either English or French going as far back as 2008 (see Chapter 5 for references). Another source of information is the written contributions to the eight international conferences organised since 2008. Searching for "degrowth" in the book category of Amazon.com returns 87 results while doing so for "*décroissance*" on its French website gives a list of 312 books. There are a few printed journals dedicated to the topic in France (*Décroissance: le journal de la joie de vivre* and *Entropia*), Switzerland (*Moins!*), Belgium (*L'escargot Déchaîné*), and Québec (*Bulletin Simplicité*), as well as a number of specialised online outlets like the *degrowth.info* blog where the topic is regularly discussed. As for articles in mainstream newspapers referring to degrowth, a quick research returned more than 200 texts in English or French spanning from 2002 to 2020.

Reflecting on these texts, I can point to three shortcomings of the degrowth discussion that has been unfolding since 2002 and until today. (1) The term is poorly defined. This was true in the early 2000s when it emerged, still true in 2008 when *décroissance* was translated in English as "degrowth," and it remains true today, as evidenced by the recurring misconceptions that will occupy us in Chapter 7. (2) The policy prescriptions are weak. There has not been much advance since the Barcelona conference of 2010 where degrowthers agreed on a paragraph of vague proposals. And last, (3) transition scenarios are nowhere to be found. If degrowth is short on ingredients (policies), it is even more so on recipes, with the question of the *how* remaining either ignored or insufficiently explored. Given the centrality of these issues to my research project, let me now dwell a little more on each of them.

An unclear concept

Harribey (2008: 5, mt), one of the most vehement detractor of *décroissance*, asks rhetorically: "Are we exaggerating by summarising this definition by saying 'degrowth is degrowth'?" While the phrasing is intentionally provocative, the author has a point: descriptions of degrowth

are often vague (lacking precision) and unclear (lacking elaboration). A decade later, Harribey (2019) reviews Latouche's (2019) latest book (whose aim was precisely to clarify what degrowth is) and reiterates his critique comparing degrowth to a black hole and accusing the author of failing to convey his message in a clear, precise, self-reflective, and up to date manner (these are Harribey's four points). Degrowth, he argues, remains obscure.

I have myself made direct experience of this fact by observing the reaction of degrowth-illiterate PhD colleagues of mine left bemused after attending the 2016 degrowth conference in Budapest. "Unclear" and "confusing," they bemoaned in unison (and we are talking about researchers already working with sustainability issues).

I think of this when I read Laurut (2019: 152, mt) castigating the international degrowth conferences to be more of a "grand mass for insiders" than a "laboratory for thought open to anyone." Same criticism for Sutter (2016) in his review of *Degrowth: A vocabulary for a new era* (2015): "the book is better at preaching to the converted (or to the intellectually innocent) than as a work that will help in what Castoriadis called the [decolonisation of the imaginary]." An inconvenient truth that lends weight to Raworth (cited in Kalllis, 2017: 179) when she writes that "degrowth turns out to be a very particular kind of missile: a smoke bomb. Throw it into a conversation and it causes widespread confusion and mistaken assumptions." I have the feeling, much like Raworth, that degrowth is unnecessarily complicated.

Part of this ambiguity has to do with what a degrowth society would look like. Degrowth is too often simply described as anything that is not a growth society. Tremblay-Pepin (2015) deplores that a concrete project of a degrowth society is yet to be elaborated. For Hickel (2019d: 59), "the deep logic of such an economy remains undertheorized." Ott (2012: 575) complains about a number of "theoretical deficits" regarding "economic theory, theory of society, theory of democracy, and theories of justice." "Just like Marxism classically seeks to generate 'socialism' or 'communism,' what sort of systemic alternative does degrowth seek to give birth to?" (Gerber, 2020: 5). "[W]e are very far from having a clear outline of the structures and institutions of a post-growth society" (Rosa et al., 2017: 69). Degrowth, they say, is "logically incomplete" (Berg and Hukkinen, 2011: 158), it lacks a "coherent theory" (Adloff, 2016), it is stuck in a "permanent conceptual blur" (Fournier, 2018: 97, mt).

This was also one of the early charge of Harribey (2008: 175) who criticised degrowth for not advancing any alternative to productivism and capitalism. "Certain objectors of growth" Caresche (2011: 28, mt) admits, "struggle to invent a new narrative for our collective imaginary, to create a mobilising utopia that will illustrate how to live better with less." In his review of *Degrowth: A vocabulary for a new era*, Alcock (2016, italics in original) writes that to get traction on the mass level, the degrowth movement "is going to need better stories: visions for a positive future that tap into the *mythos*. Stories to guide us down the steep slopes of the dark mountain to the shelter of the valleys beyond." Romano (2019: 30) opens his latest book on degrowth by regretting not finding in the literature "a clear design of what a degrowth society should be." For Timms (2020), degrowth is "traversing an intellectual puberty, trying to understand itself, rather than a political movement ready for active mobilization in the realm of everyday struggle."

Whereas Harribey criticises Latouche for not being explicit enough, others argue the opposite, namely that degrowth is too specific and overly academic (e.g. Alcock, 2016; Jordan,

2016; Sutter, 2016).[1] Abraham et al. (2015: 29, mt) write that degrowth "remains an idea for intellectuals and that those who are not fond of theoretical reflection struggle to identify with it." For Gadrey (2009, mt), "choosing a term that requires further reading to understand that it means something else that what it seems is a serious limit to the popularisation of ideas! Isn't it the intellectual strategy of an *avant-garde* group that would be intelligible to its members but not to the outside?" Liegey (cited in Porro, 2019, mt), one of the most active partisan of degrowth, himself admits: "To understand degrowth requires a PhD in each discipline. It is a multi-dimensional idea that is tricky to defend in the media." Same confession in the epilogue of a book where Abraham (2019: 273, mt) attempts to synthesise the idea of degrowth: "[the book] is way longer and more complicated than I hoped – writing for 'normal' people who do not spend their lives in books is really difficult." From commons and *dépense* to anti-utilitarianism and conviviality, degrowth is a world with its own grammar, often incomprehensible to people outside of the field. Degrowth, Paulson (2017: 426) writes, entails "extraordinary theoretical and normative complexity."

And so degrowth is stuck between anvil and hammer, sometimes too abstract and at other times not abstract enough, but always inadequate.

> "degrowthers remain evasive as to the desirable level of production towards which we should degrow. Only Latouche (2006: 26) puts forward the idea of coming back to 'a material production equivalent to the one of the 1960s and 1970s' " (Harribey, 2007: 7, mt);
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> "There might be a need in the de-growth camp to better clarify the distinction between the idea of 'stepping out of economics' (Latouche, 2006) and 'stepping out of economism' (Ariès, 2005; Ridoux, 2006)" (Martinez-Alier et al., 2010);
>
> "The vagueness of the definition of degrowth renders its different discourses difficultly understandable by the public" (Prieto and Sim, 2010: 122, mt);
>
> "The Degrowth economy has the makings of a viable counterstory but is, in its current form, logically incomplete" (Berg and Hukkinen, 2011: 158);
>
> "Bonaiuti and Latouche critique the capitalist mode of production but are rather vague with respect to what should replace it" (Schwartzman, 2012: 123);
>
> "Another criticism to the degrowth argument is that there is no single, consistent unit to measure the scale of the economy, so that the meaning of the notion is unclear. It might mean degrowth of consumption, work-hours, GDP, GDP per capital, or some measure of the physical size of the economy" (van den Bergh and Kallis, 2012: 916);
>
> "the level at which any high consumption economy stabilizes, something that should be made more explicit by those who advocate a steady state economy and degrowth" (Victor, 2012: 212);
>
> "I have to admit I have never quite managed to pin down what the word means. […] Are we talking about degrowth of the economy's material volume […] or degrowth of its monetary value, measured as GDP?" (Raworth, 2015);
>
> "unfortunately, degrowthers do not offer any clear position on what they understand by emancipation. […] interest in the concept has not been sufficient to elaborate a concrete

[1] In his review of *Degrowth: A vocabulary for a new era* (2015), Alcock (2016) mocks the academic level of the book: "my own selection of important vocabulary would have put far more emphasis on words like *land*, *rain*, *sun*, *tree*, *house*, *work*, *build*, *dig* or (perhaps ironically) *grow*. I don't spend a lot of time chatting about anti-utilitarianism with my neighbours, though on reflection, now I've read about it, perhaps I've been 'critiquing the hegemony of the epistemological postulates of economics' (p. 21) in my daily life all these years without realising it; I call it 'building a house and planting a garden while having fun with friends.' " In another review of the same book, Sutter (2016) complains that the text is "too tilted toward theory." "For a work intending to provide 'a vocabulary for a new era,' this isn't the sort of book that will help to educate your local Congressperson or MP – it's far more likely to alienate him or her."

proposal of an emancipated society that would fit degrowth aspirations"; "it has become usual for degrowthers to promote concrete practices – local consumption, renewable energy, local and organic agriculture, etc. – that are laudable, but that are never articulated into a coherent system"; (Tremblay-Pepin, 2015: 118 / 120-21 mt);

"It is not so easy to identify the theoretical nucleus of the current debate around *décroissance*"; "the concept of degrowth clearly still lacks such coherent theory, as its economic theory in the narrower sense is still weak. Apart from exceptions like Tim Jackson, its economic concepts are either still very utopian or set up in a too concrete-practical and localist manner. A degrowth-macroeconomics for the global era is not yet in sight" (Adloff, 2016, italics added);

"Degrowth has been criticized for being logically incomplete, ambiguous, and confusing, owing to the multiplicity of its definitions and challenges to its operationalization (Tokic, 2012; van den Bergh, 2011)" (Khmara and Kronenberg, 2017: 3);

"For instance, Demaria et al. (2013: 203) argue that 'some form of social security and public health, kindergarten and schools, or some other elements of the welfare state' need 'to be defended' – but they are silent on what this demand might entail more specifically" (Strunz and Schindler, 2017: 3);

"when one speaks of degrowth, which degrowth is that? A reduction of the production of plastics and fossil fuels or the diminution of national production of goods consumed by working classes (because rich people will always have the possibility to find the goods one way or another)? A reduction that is desired and understood, or imposed in the follow-up of a necessarily violent populist revolution?" (Sansfaçon, 2018, mt);

"degrowth as a field characterised by a permanent conceptual blur"; "degrowth is a revolutionary project difficult to understand. […] While we may know what degrowthers do not want, there are little information about the society of frugal abundance or non-growth society that they desire" (Fournier, 2018: 97 / 116, mt);

"Clarification is demanded on the concrete meaning of degrowth measures. For instance, in Nigeria, and more generally in Africa, energy production is increasing yet there is more inequality and energy poverty. […] What would degrowth mean in this context? Freezing production, increasing equity, increasing assets. Widening access to people who do not have access to energy? Is this just another word for energy transition?" (Rodríguez-Labajos et al., 2019: 178);

"proponents of degrowth rarely clarify how they conceptualize technological progress, unequal exchange, surplus production, or the exploitation of labor and nature" (Hornborg, 2019: 82);

"it is difficult to find in the existing literature a clear design of what a degrowth society should be. Few have ventured into the construction of an alternative social model, inspired by the principles implied in the critique to growth-led society" (Romano, 2019: 30);

[In a review of Giorgos Kallis's *Limits*, 2019] "the degrowth literature at large swings like a pendulum between these two takes: at times it focuses on structural limits pertaining to capitalism (that in fact make degrowth impossible), and at other times, it retreats to a moral critique" (Isikara, 2020);

"Reading the literature most often cited as essential to understanding degrowth, one gets the overwhelming sense of a school of thought traversing an intellectual puberty, trying to understand itself, rather than a political movement ready for active mobilization in the realm of everyday struggle" (Timms, 2020);

"it is not a complete and codified paradigm and does not aspire to become one, remaining a loose combination of ideas and postulates. […] As degrowth still remains a loose collection of ideas rather than a well-theorized and formalized concept" (Khmara and Kronenberg, 2020: 3).

In defence, some degrowthers affirm that the term "defies a single definition," that it "expresses an aspiration which cannot be pinned down to a simple sentence" (D'Alisa et al., 2015: xxi). It is a "multi-sited, multilingual and multiform network" (Paulson, 2017: 426), a "concept in the making" (Petridis et al., 2015: 176) that can hardly be captured in a unified theory. They also repeat that this "multiplicity is a key resource and strength of degrowth" (Barca et al., 2019: 5).

This is why, these authors argue, degrowth is best presented as an assemblage of diverse ideas, as in *Degrowth: A vocabulary for a new era* (2015) or *Degrowth in Movement(s): Pathways for transformation* (2020). And indeed, considering its history, one understands why degrowth cherishes such conceptual ambiguity. When the term "*décroissance soutenable*" (sustainable degrowth) appeared at the beginning of the 2000s, it did not correspond to anything tangible. The name was not descriptive but explorative, it was not given to clearly and precisely define what it was because there was nothing to be defined; it had been called "degrowth" as a rallying cry and in order to find out what it *was*.

And yet, two decades have passed and so it seems fair to expect that degrowth should have found itself in a clear and precise form. And to some extent it has. From Latouche's (2006) "8Rs" and Flipo's (2007, 2017) five sources of degrowth to Lieven's (2015) degrowth map, Kallis's (2018) nine principles, and Abraham's (2019) three principles, there has been a few attempts at theorising. These are exceptions rather than the rule, however. And these exceptions are, as I will later argue, insufficient, especially for those expecting to use degrowth as an operational policy framework. Mocca (2019: 2) captures the situation pretty well: "a fully-fledged political theory of degrowth has not been produced; rather, degrowth proponents draw on other thinkers' theoretical propositions, without elaborating them in an organic and consistent theoretical framework." Put simply, "much [of] degrowth scholarship is just a cluster of loosely grouped ideas" (Paulsson, 2017: 218). This situation, it seems to me, warrants a grand Spring cleaning.

As I will show in *Chapter 7: Controversies*, the ambiguity of the term is a source of endless misunderstandings. How is it still possible to mistake degrowth for an advocacy of recession or an apology for poverty, and this after almost two decades and hundreds of books and articles written on the topic? Of course, we should not blame degrowthers for all the misconceptions they receive. The dismissal of degrowth as hazy and unsound is also a line of defence of the prevailing ideology that degrowth seeks to dislodge. And yet, it remains true that the concept could use some clarity, especially if it is to be taken seriously by those who are not already convinced. The task of capturing the essence of degrowth into a simple framework is within reach and it is one of the goals of this dissertation.

Weak policy prescriptions

Degrowth is particularly weak on the question of the *how*. Reviewing Latouche's *Farewell to Growth* (2009), Vergradt (2010: 80) is left disappointed about the transition to a degrowth society: "we are still waiting for the appropriate articulation and structuring of such a project." Almost a decade later, when asked what he made of the degrowth movement in Europe, Herman Daly (2018: 102-103, italics added) answered: "I am favourably inclined. I meet a lot of young Europeans questioning growth. But I am still waiting for them to get beyond the slogan and develop something *a little more concrete*. I am hopeful that they will go beyond just chanting

the word décroissance." And today, after the "absence of concrete policies" having been "reproached to objectors of growth for a long time" (Lavignotte, 2010: 42, mt), the waiting continues: "the movement seem[s] to be missing a key element: how to achieve systemic change" (Barlow, 2019).

These sentences capture the second shortcoming of degrowth in its current form. The term has been chanted in an increasing number of places with a crowd more and more willing to listen, but when the how-to-make-it-happen-in-reality question comes, degrowthers have not much more to offer than a few laundry lists of demands, only some of which qualifying as actual policies in the ears of decision-makers.[1] "Yes, we want a society emancipated from the logic of growth: but how?" bemoans Tremblay-Pepin (2015: 125, mt). "How to visualize the implementation of a degrowth transition at the level bigger than one neighbourhood?" (Khmara and Kronenberg, 2020: 21). "How should the necessary transformative changes be conceived and conceptualized in order to contribute to degrowth?" (Heikkurinen, 2020: 3).

Degrowthers know what they want (even though they often fail at communicating it clearly) but they do not know how to get it. Kallis (2017a: 98), one of the leading degrowth scholar, summarises the situation: "we are often told as degrowthers that we have a very good critique of what is wrong with economic growth, but that we seldom offer proposals on what to do differently."

> "Calls for change are increasing but often forget to specify the how" (Rumpala, 2009: 166, mt);
> "[degrowth] suffers from the poorly defined character of transition measures" (Caresche et al., 2011: 34, mt);
> "Numerous books and articles have been written that criticise economic growth as a policy goal, and conclude that something else is needed. However, in the vast majority of these sources, the focus is on the problem […] rather than the solution" (O'Neill, 2012: 25);
> "Degrowth debates usually suffer from weak theoretical foundations with regard to the analysis of social structures, and even more so, as they concern perspectives of realizing degrowth" (Exner, 2014: 12);
> "little has been done to evaluate the specific proposals put forth by groups who argue that growth must be limited or halted" (Hollender, 2015: 94);
> "Whereas degrowth scholars give logical arguments in favour of such policies […], there is little formal or empirical work in testing the actual outcomes, and the advantages or disadvantages of such policies. The fact that the same proposals are put forward by some in the name of growth, suggests that degrowth scholars have to do a better job in formulating how and under what conditions such policies may foster sustainable degrowth, rather than growth" (Petridis et al., 2015: 195);
> "Yes, we want a society emancipated from the logic of growth: but how? More important, why waste one's time to repeat this endlessly instead of developing a social organisation that would enable to achieve this goal?" (Tremblay-Pepin, 2015: 125, mt);
> "The degrowth literature could benefit from more concrete examples of good practices that would bring to bear its novel theoretical proposals" (Natale et al., 2016: 49);
> "Proposals coming from degrowth defenders also have some problems when it comes to putting them in practice" (Ramos-Martin, 2016: 2);

[1] The blog posts of Rigoulet (2019a, 2019b) are good examples of an impetuous strategy that is easy to dismiss. Rigoulet calls for a "*décroithon*" (degrowthon, mt) where 10% of people in the global North would reduce their spending by 20% throughout one year, withdrawing that money in cash, as to lead to a 2% decrease in GDP and, following the prediction of the author, a collapse of the economic system. At the end of the year, people would gather to set fire to these cash savings. Even though I salute the creativity of the proposal, I fear its superficiality risks undermining the degrowth project as a whole.

"Unlike its growth-oriented counterpart, degrowth lacks out-of-the-box solutions" (Schindler, 2016: 824);

"[Degrowth] lacks analyses on actual materialization and the nature of the change required" (Joutsenvirta, 2016: 23);

"all the most erudite theory in the world is academic wheel-spinning if degrowth can't be translated into a program for public policy" (Sutter, 2016);

"the problem with the degrowth idea is that it is mostly very vague regarding the specific means to achieve it" (Bartkowski, 2014);

"the concrete propositions developed by degrowthers in Europe and Québec are not always consensual and can even disappoint by being either woolly or too moderate considering the magnitude and urgency of the problem" (Beau-Ferron, 2015: 165, mt);

"But what does this 'action' of degrowth entail? […] the specifics of what this means varies among academics […]. There is thus substantial uncertainty as to what exactly constitutes the action of degrowth" (Vandeventer, 2016: 19);

"as Antal correctely points out, we need to develop real visions and narratives. The degrowth slogan has worked for the last 15 years, but we now need to go on to the next step: developing concrete political proposals" (Schneider, 2017);

"Degrowth, says its proponents, will be achieved by a moderation of our way of life. Yes, but how to make it happen?" (Benoist, 2018: 86);

"a major weakness of the degrowth literature is that, in concerning itself with such broad themes, it gives very little detailed attention to developing an effective climate-stabilization project" (Pollin, 2018: 6);

"Though advocates of degrowth frequently mention the possibility of introducing such limits […], the development of a conceptual/theoretical approach to understand and motivate such limits and an in-depth discussion concrete policy proposals concerning various regulatory levels has yet to be initiated" (Buch-Hansen and Koch, 2019);

"what is lacking is an associated macroeconomic policy agenda informed by these insights, with clear policy instruments, that could form the basis for a transition to a sustainable and prosperous post-growth economy" (Barth et al., 2019);

"the [degrowth] movement is not sufficiently clear about how to move out of capitalism, particularly in the setting of liberal democracies. If the goal is instead how to reform the current capitalist system, then I think the movement would need more theoretical elaboration on how to achieve major transformations within capitalism without economic growth (and without recession/crisis)" (Muradian, 2019: 260);

"I think Giorgos [Kallis] makes some very interesting arguments, and then we get to the end of it, and it's like… a carbon tax. My kind of question back is: until you can tell me what these alternative institutions look like, how they operate, what kind of sort of achievable policy agenda might be put in place in some sort of democratic fashion, then it's just talk" (Nordhaus, 2019: 1h17min);

[Participant talking about attending the degrowth Summer school at the Universitat Autònoma de Barcelona] "It made us somewhat disillusioned with the narrative of degrowth and its potential for a social ecological transformation. The movement seemed to be missing a key element: how to achieve systemic change" (Barlow, 2019);

"This deficit, along with the abstraction and mystification of the concept of the *imaginary*, has made degrowth a theoretical framework that is able to provoke but unable to explain or suggest how actual societies can change direction and follow another pathway" (Varvarousis, 2019: 494, italics in original);

"there is a lack of a clear-cut programme about how to achieve degrowth" (Mocca, 2019: 2);

"there is a lack of empirical studies on the specific institutional conditions and governance arrangements that can support a wider shift away from economic growth. […] The role of

institutions and governance in a transition to a degrowth society is an under-researched issue in the degrowth literature" (Nyblom et al., 2019: 2);

"very few attempts have been made so far to operationalize degrowth" (Khmara and Kronenberg, 2020: 3).

The typical degrowth study is problem-focused with a light sprinkle of policy proposals, at best. These "solutions" often come as a list of vague demands, e.g. universal basic income, work time reduction, regulating advertisement and so on. Few are the texts that specify *which* type of, for example, basic income is desirable from the perspective of degrowth (surely not a Negative Income Tax given once a decade in Bitcoins to substitute for all welfare transfers).

Vague proposals can frustrate decision-makers who are faced with the obligation to propose precise transformations[1] – e.g. work time reduction, yes, but for whom in which sectors, how large, where in the schedule, organised how at which level, and financed how? Workers trying to envision their ideal work weeks, employers planning their future production, and public servants crafting labour regulations (all of them making decisions of some kind) would benefit from more details as to the consequences of different choices on the mater. This position of relying on policy key words such as *job guarantee*, *maximum income*, or *extraction limits* is "certainly comfortable but not operational" (Caresche et al., 2011: 38, mt).

Result: "currently degrowth is a 'non-story' and does not act as a policy motivator" (Schneider, 2019: 15). For those wishing to see changes in the real world, this is problematic. The idea of degrowth should not be an exercise in abstraction reserved for a few academics, but rather a framework that empowers those acting for change out there in the world. Degrowthers should walk the talk and spend more efforts to elaborate detailed policy prescriptions.

True, "these theses are easy to grasp in theory but difficult to translate into policy" (Borowy and Aillon, 2017), but the task is not impossible. Each in their specialised fields, advocates of complementary currencies, self-directed enterprises, emission caps, wealth taxes and all the policies that one finds on the degrowth wish list are been explored. What remains to be done is to distil these insights into a convincing policy agenda that fits degrowth's aspirations. The third part of this dissertation is dedicated to such task.

No transition scenarios

Another insufficiency of the degrowth corpus is the absence of proposed transition strategies. Not only does degrowth lack specific ingredients, but the "recipes for degrowth" remain equally underdeveloped (Pueyo, 2014: 3467). While attending the 2016 Degrowth Summer school at the University of Barcelona, I met several representatives of the newly elected *Barcelona en Comú*. When I asked them what they, as public decision makers, most needed from researchers like us, they answered, "transition scenarios."

This is a fair demand for a project as revolutionary as degrowth. Extraordinary claims require extraordinary evidence. And because no one likes to walk in the dark, the evidence should take the form of coherent, detailed, and well-articulated transition strategies. As of

[1] In his review of Dietz and O'Neill's *Enough is enough* (2013), Paulsson (2017: 220) praises the style of the book who "should nonetheless make it accessible both to the laymen as well as to the people working in the higher echelons of policy making." Clarity and accessibility is surely a problem but not the main one. The shortcomings of degrowth texts rather has to do with *relevance*. Policies are discussed at a vague and abstract level that is detached from the preoccupations of policymakers.

today, these do not exist. This is the "Achilles heel of degrowth" (Prieto and Sim, 2010: 133, mt): "How degrowth might happen we don't know" (Burton and Somerville, 2019: 104).

> "The un-thought of degrowth remains the transition: how can fundamental transformations of energy and transport systems, housing, urbanism be possible [in a context where production would decrease]" (Harribey, 2008: 10, mt);
>
> "for a project of sustainable degrowth to be credible, it would be useful to work on clarifying possible processes and leverage points for change" (Rumpala, 2009: 166, mt);
>
> "the question of the transition is the Achilles heel of degrowth. […] without a credible scenario, degrowth will remain marginalised and dismissed as just another utopia" (Prieto and Sim, 2010: 133, mt);
>
> [In a review of Moreau's *Dictature de la croissance*] "And the reader will vainly look for how to transition from one regime to the other, from growth to degrowth, for anything more detailed than a call 'to live differently' " (Cardot, 2010, mt);
>
> "The contours of a plausible degrowth transition are far from clear. […] the social action and politics that will bring the degrowth transition and the institutional changes entailed are generally underspecified" (Cattaneo et al., 2012: 515);
>
> "No-growth approaches have remained at fairly abstract levels to date, mostly failing to discuss concrete policy proposals, let alone their synergy potentials in a coherent transition strategy" (Koch, 2013: 13);
>
> "unfortunately, many academics and practitioners in this movement [degrowth and postgrowth] currently fail to connect with other actors across issue areas or lack perspective on systemic interconnections. There is a need for more thorough appraisal of new economy initiatives, moving from specific case studies to integrated systems-level analysis of changes, understanding potential feedback loops, risks, barriers, and side-effects. […] At this point, the postgrowth literature still has much work to do to develop and coordinate actors within a broader vision of system change" (O'Rourke and Lollo, 2015: 251);
>
> "Some literature on degrowth explores different transition paths to achieve a sustainable society, however, the emphasis is solely given to the elements that those paths may include without analysing the viability and feasibility of those scenarios in quantitative terms (Videira et al. 2014). It is regrettable that this much needed discussion of degrowth in biophysical terms (which is inevitable eventually) is not based on a sound economic and biophysical analysis)" (Ramos-Martin, 2016);
>
> "Another area of research could be to develop models and strategies for different phases of the shift to a post-growth economy. While largely theoretical and circumstantial, identifying coherent strategies for taxation policies in the short and long term will be crucial for a rational and democratic approach to a post-growth economy" (Cattaneo and Vansintjan, 2016: 23);
>
> "As well as maintaining and updating the critique of growth and detailing coherent policies for a post-growth economy, it is also important to develop sophisticated transition strategies that would maximise the changes of a post-growth political campaign succeeding" (Alexander, 2016);
>
> "we are very far from having a clear outline either of the structures and institutions of a post-growth society or of a viable path for the transformations needed to get there" (Rosa et al., 2017: 69);
>
> "Degrowth cannot be simply about the activation and veneration of small-scale experiments […] all of these spheres are tightly coupled. It is futile to talk about establishing, for instance, 100% reserve requirements for banks without working through the impacts that such a move would have on other sub-systems (and how they would respond in kind)" (Cohen cited in Kallis, 2017a: 144);

"there is a lack of macroeconomic frameworks and modelling tools to test how proposed post-growth policies could produce a stable transition and viable alternative to economic growth. There is a need to develop new macroeconomic modelling approaches or adapt existing ones to investigate potential post-growth futures" (Hardt and O'Neill, 2017: 198);

"the objectives behind the proposals are sometimes unclear. […] there is a need to look at degrowth proposals as components of a strategy, and not just individually" (Cosme et al., 2017: 23);

"By how much and until when will certain activities have to degrow so that persisting sustainability shortfalls can be addressed? […] implementation strategies for concrete policies could be devised […] concrete policy scenarios to foster a large-scale transition towards more equitable societies" (Weiss and Cattaneo, 2017: 226);

"the present paper seeks to remind post-growth proponents that the transition requires more than the collection and elaboration of techniques that will formally result in a sustainable rate of material throughput […]. Rather, deliberate strategies to overcome political economy barriers to change have to be developed" (Strunz and Schindler, 2017: 4);

"These loss avoidance, recovery, and resistance narratives are useful for disseminating degrowth, yet they remain somewhat nebulous about how nature and society will evolve during degrowth" (Bliss, 2018);

"we must carefully consider not only what social conditions would best facilitate the realisation of a degrowth economy, but also what role social or cultural movements might have to play in producing those conditions" (Alexander and Gleeson, 2018: 103);

[In reviewing Latouche's *décroissance* (2019), Clerc writes:] "Opposing a sick society to a dream one makes sense only if one explains how to transition from one to the other. The paths put forward by the author (relocalisation, self-production, local currencies…) are only marginally answering that question" (Clerc, 2019: 81, mt);

"the dynamics of a transition toward degrowth are inadequately considered. […] these authors do not consider how the transition toward a post-capitalist society could be led by degrowth-inspired dynamics of change. In fact, very little has been said about the dynamics of how the degrowth alternative can start materializing within the existing capitalist-growth system" (Vandeventer et al., 2019: 272-273);

"would a degrowth transformation be more like a deliberate social mobilisation over a relatively short time period […], such as the abolition of slavery, or a long and emergent process such as the agricultural revolution? Would a degrowth transformation be more likely after an ecological or socio-political collapse, like the transition of Central and Eastern European countries after the fall of the Soviet Union?" (Feola, 2019);

"the degrowth movement should devote much greater attention to political subjectivity and strategy" (Barca et al., 2019: 6);

"We need rigorous modelling and experimentation with degrowth policies to better understand how a post-growth economy would function" (Vansintjan, 2019);

"While research on degrowth and postcapitalism collects a large number of compelling examples […], it lacks convincing conceptualizations of a transformation beyond growth and accumulation" (Schmid, 2019: 7).

In the end, it comes down to this: if "degrowth theorises a way out" (Akbulut et al., 2019: 5), which way is it exactly? So far, the few contributions to the question of the *how* have envisioned transition superficially, as an addition of individual actions akin to a sort of policy soup. What

would be more useful is to articulate policies together into rich transition maps.[1] Seeing the path to achieving degrowth more as a Rubik's cube and less as a bullseye dart shot.

If degrowth is about deconstructing the growth society, there should be such a thing as a deconstruction manual. And by this, I do not mean degrowth should be normalised into an IKEA-like sequence of actions, which would run contrary to the essence of what degrowth is. What I mean is that we should stop preaching for an abstract *decolonisation of the imaginary* and start applying degrowth to concrete decision-making situations. Until we do so, degrowth will remain an arcane, over-sophisticated idea that appeals to no one but us degrowth activists.

What I intend to show in the third part of this monograph is that degrowth can be turned into such transition-able concept, making it relevant for decision makers in governments, firms, commons, and households, without losing its complexity and radicalness. In a recent article, Koch (2019: 16) concludes by calling for further research on "the theoretical and practical development of the as yet fragmented eco-social policy proposals and to their integration into a coherent transformation strategy." The present study is an answer to that call, even though I must temper my use of the term *strategy*. Indeed, several of the above statements call for a better understanding of the politics of a degrowth transition, seeking clarity on how one may render degrowth politically feasible today. But one thing after another. This dissertation will not offer such political insights (even though I wish it did) but only focus on the policy design aspect of a degrowth transition, which I consider to be ground one of the degrowth project.

Purpose

Rationale

I am writing this dissertation from the perspective of engaged, activist research – what Martinez-Alier et al. (2011) call "activism-led science." This means that I hold science to be at the service of society. It results that the structure and substance of the thesis might be unusual in its width and political engagement. I stand by it on the grounds that the state of the world today warrants adventurous deviations from research-as-usual.[2]

As forests burn and communities suffer, the concerns should not be on pretty footnotes and witty titles. What we need is to "raise hell" (Alexander and Gleeson, 2018: 205). The expression is a good one; we must make the violence of the system visible and we must, not only propose, but actively defend and nourish alternatives. In order to do that, we need better critical theories. Wright (2013: 6) calls it an "emancipatory social science,"[3] one that both interprets the crisis and find ways of resolving it. But this is not enough. Because critical theories have no agency of their own, we academics must also bring that science to the streets.

Understand this monograph as both a study *of* degrowth and a study *for* degrowth. I look at the idea of degrowth, its history and legacy, motivations and theoretical foundations,

[1] An extra step would be to turn such analytical scenarios into more inspiring stories of change, as Samuel Alexander has done in *Entropia: Life beyond industrial civilisation* (2013) or more recently in the Chapter 6 of *Degrowth in the Suburbs* (2018), which tells the story of a degrowth transition in Australia from the vantage point of 2038.

[2] "While humankind busily builds a funeral pyre for tens of thousands of species, including conceivably itself, it would be faintly ridiculous were the social sciences to be preoccupied with a narrow, business-as-usual agenda" (Dale, 2010: 250).

[3] "An emancipatory social science responding to these propositions faces four broad tasks: specifying the moral principles for judging social institutions; using these moral principles as the standards for diagnosis and critique of existing institutions; developing an account of viable alternatives in response to the critique; and proposing a theory of transformation for realizing those alternatives. The idea of "real utopias" is one way of thinking about alternatives and transformation" (Wright, 2013: 6).

controversies, and policies, but I do so with the explicit intent of advancing the degrowth agenda. Both choices are controversial.

Writing a PhD on degrowth in an economics department is like eating ribs at an Animal Rights gathering; it quickly gets noticed and is often scowled. I am speaking from experience; as an economist, my interest for degrowth has always been regarded as at best marginal, and at worst distinctly suspect. If anything, the admittedly obsessive effort I apply to the task is a reflection of that awareness. In a growth society, the burden of proof falls on growth sceptics, and since extraordinary claim require extraordinary evidence, the case for degrowth must be made carefully, hence the unusual length of this book.[1]

As for the motivation (research *for* degrowth), it is even worse. Keep value judgments outside of the thesis, says the well-intentioned supervisor. This may sound wise for those looking at beetles and particles but I find it difficult to justify for social scientists confronted with a world plagued with injustice. What we decide to research – and how we decide to research it – is a political decision. A PhD should not be treated as a CV ornament but as an opportunity given by society to contribute to its betterment. The shape of this study stems from this responsibility.

Why focusing on degrowth? I have spent my entire studies looking for the smallest common denominator that would explain exploitation in all the forms it takes. Possible answers kept piling up: capitalism, neoliberalism, globalisation, general-purpose money, technique, modernity and many more. The most convincing answer I found was economic growth as a logic and a system – one could say the ideology of growth or *growthism*, for short. This statement might seem either naïve or absurd, and yet it is my main claim. With growth identified as a problem, the *degrowth* alternative seems like the natural solution. But what is degrowth, really? The limited knowledge about this revolutionary paradigm has been used against it to depict any deviation from the growth path as woolly, uncertain, and potentially dangerous. With this in mind, the present work aims at making degrowth a serious alternative to the status quo, so that it may be chosen or rejected on the basis on what it can really offer, and not based on clichés and suppositions.

Why focusing on the economy? Today the economy is at the core of everything else; it is *the* apex social system ruling over all others. In public discourse, the Market is treated as the gatekeeper of all changes. What governments, firms, and individuals can do depends on the tax revenues, profits, and income they have. This pervasiveness of the economy and the economic, I will argue, is an anomaly that requires correction.

I am aware that waging such battle puts an economist such as myself in a difficult position: deconstruct the way of thinking and the institutional assumptions that currently dominate the field of economics. This is a dangerous enterprise, but a vital one. Perhaps, every economist studying degrowth should see themselves in the position of the character played by Bruce Willis in *Armageddon* (1998), stranded on an asteroid rushing for the Earth, trying to figure out how to make it explode to spare humanity. The task here is similar: understanding the economy in order to blow it up.

[1] This also has to do with the interdisciplinary character of the research. Ideally, an interdisciplinary text should be understandable by people from various disciplines. This requires an extra-effort in defining terms, making assumptions explicit, introducing key references, etc. I do believe it is for the best as this forces us scholars with a mono-disciplinary training to be extra-rigorous.

The blow-up is actually twofold. The economy out there in reality needs reforming but so does economics as a field of study. A "failure of collective imagination"; this was the reply of the fellows of the British Academy to the Queen when she asked why nobody predicted the Global Financial Crisis (Besley and Hennessy, 2009: 3). In its current monolithic form, economics is at best unhelpful, and at worse deceiving. Mainstream economics marginalises heterodox schools of thought, ignores other disciplines, and refuses to critically reflect over its methodology, which makes it under-equipped to study complex social-ecological issues. "Economic theory as it exists increasingly resembles a shed full of broken tools" (Graeber, 2019). Yes, except the tools are not actually in the shed but in the hands of an operating surgeon. The world needs surgeons, not butchers; and economists need scalpels, not cleavers.

Why focusing on policies? There is a diversity of things I will do in the dissertation, from history to theory and controversy, but all of that I do for the sake of better policymaking. I understand the term broadly, namely all political processes of problem solving whether they happen within governments, firms, or commons. Policymaking is when we act on what we know to solve a situation we consider problematic.

It was during the post-growth conference at the European Parliament in September 2018 that I realised the need for more policy research. There, it became clear to everyone in the room that degrowth had not done its homework and came to the parliament unprepared. Degrowthers did not even agree among themselves about basic definitions, objectives, and instruments, and completely failed to connect with decision-makers at a pragmatic level of policymaking. The conference, it seems to me, was a failure exposing the most problematic shortcoming of degrowth, namely the fact that it was not operational.[1]

Why France? I have chosen France as a case study and did so for several reasons. It is the homebirth of *décroissance* and has an active community of degrowth doers and thinkers. Its profile as a rich, colonial, unequal, and unsustainable nation makes it a perfect candidate for the types of changes degrowth calls for. Most of the policies I explore have an antecedent in France, which facilitates policy design. And, of course, being my home country, it is the one that I feel most comfortable writing about (additionally to being a place abundantly studied with accessible and good-quality data).

Research questions

The thesis unfolds in three steps. After assessing what is wrong with the economy today (**Part I: Of Growth and Limits**), I identify a desired direction (**Part II: Elements of Degrowth**), and detail how to get there (**Part III: Recipes for Degrowth**). Each of these parts aims to answer a specific research question (even though I consider the first one about the limits of economic growth to be a sub-question of the second one, *What is degrowth?*).

1. ***What is economic growth and what are its limits?***
   If degrowth is the answer, one may wonder what is the question. Why is degrowth necessary? To answer, one must understand what economic growth is and what its limits are. Some may argue that the growth critique has run out of steam, with little impact on

[1] Of course, I am aware that there are other political factors at play that explain why the concept of degrowth is not taking hold in politics, and a better crafted agenda is short of a strategy. And yet, there will be need for an agenda. Whereas the politics of a degrowth transition is mostly left out of this thesis, I see it as a necessary complement to my policy analysis.

reality. And yet, it is impossible to talk about changing today's society without understanding the dynamics of economic growth. Rosa (2005) remembers French sociologist Pierre Bourdieu (1930-2002) in saying that "it is necessary to know the law of gravity in order to build planes that can effectively escape it." I would simply rephrase: it is necessary to know the dynamics of economic growth in order to build societies that can effectively escape it. The outcome of **Part I: Of Growth and Limits** is an analytical framework detailing the nature, causes, and consequences of economic growth.

2. ***What is degrowth?***
What exactly is degrowth and what is it about? **Part II: Elements of Degrowth** synthesises the idea of degrowth in one single conceptual framework. Such task justifies an exploration of the history of the concept, the diversity of representations behind it, its theoretical foundations, and the controversies that shape its contours. The outcome of this part is a description of an ideal-typical degrowth society (or more precisely, of the economy of such society), a vision that I will use to inform policymaking in the rest of the dissertation.

3. ***How to transition to degrowth?***
Abstraction is of no use if it does not help to solve problems in reality. After the *why* and the *what*, **Part III: Recipes for Degrowth** deals with the *how*. How to design and manage a smooth transition from the growth society to its degrowth alternative? It does so by analysing the policies that degrowthers have proposed and the policies that, I will argue, they should propose. This part delivers both a political programme and a specific method to think about policy design.

With this triple research question, I use the concept of degrowth for destruction, construction, and transition. **Part I** uses the analytical power of degrowth to better understand – and criticise – economic growth and its institutions. **Part II** is constructive because it elaborates a normative theory of degrowth that specifies what a degrowth society may look like. And **Part III** applies the notion to the design of concrete policies that could enable a transition from the world of growth to the world of degrowth.

Methodology

Extraordinary claims require extraordinary evidence, and extraordinary evidence do not come easy. In this section, I make a number of methodological remarks regarding the different research techniques used in the dissertation.

Theory building

This study is for the most part theoretical. It should be noted from the onset that the term theory is used here in a different epistemological understanding than, for example, in "theory of growth." The present theory does not aim to explain a phenomenon out there in reality. Rather, it selects and articulates already formed theories and looser concepts, the overall objective being to construct a theoretical understanding of a desired condition – theoretical foundations *for*

degrowth. The theory is thus more normative than descriptive; it examines various ideas of how something *ought to be* more than it claims to be able to describe how it *is*. Of course, it ends up doing a bit of both: analysing what is in order to better select what should be.

There is not much I can say about the theory building process itself and this because I did so with no pre-defined method. I did not know much about degrowth before starting my PhD in March 2016, but I quickly realised there were few such "theories" of degrowth to build from. I decided to gather all the literature published on the topic, synthesise it, and then see what would emerge. I read through the corpus trying to identify reoccurring elements, hoping that I could later on turn this typology into a theory by articulating the elements together. To keep track of insights, I kept a daily thesis journal in which I wrote the thoughts I had, each of them coded with keywords. Once finished with the literature, I was left with a sort of conceptual *gruyère* – a panoply of ideas, few connections, more black matter than anything tangible. The product of that process was hardly useful and something extra had to be done.

Some missing elements only needed to be imported into the degrowth framework. This was the case for the *extensive* and *intensive* growth from the French Marxian Regulation School (which I modified slightly) or policymaking as understood by the American school of policy design. Some elements were present in the degrowth literature but needed to be better articulated (for example, the triple objection to growth presented in Part I). Others needed further elaboration; this is how I came to write the section on autonomy, sufficiency, and care, and then the following reflections on the sequence of provision. At last, there were certain aspects with no starting point whatsoever (at least from a degrowth perspective), where I had to start from scratch, like the conceptual sections on property, work, and money in Part III.

Conceptual history

In *Chapter 5: Origins and definitions*, I write about the history of the concept of degrowth. To do so, I relied on a diversity of physical and digital documents (articles from newspapers and magazines, minutes from meetings, conference reports, scientific articles, books, academic theses, interviews, and documentaries).

Because information was sometimes lacking, I conducted several short unstructured interviews with Dalma Domeneghini and Jean-Louis Aillon (Italy), Bernard Legros and Olivier Malay (Belgium), Geneviève Tremblay-Racette (Québec), and Nina Treu (Germany). To guarantee the veracity of my story, I have also asked a number of people starring in my history to comment on the text – François Schneider, Paul Ariès, Fabrice Flipo, Timothée Duverger, and Franck-Dominique Vivien for France, Federico Demaria and Riccardo Mastini for Italy, Giorgos Kallis and Iñaki Pradanos for Spain and Catalonia, Barbara Muraca and Max Koch for Germany, and Yves-Marie Abraham for Québec. I chose them because they were either directly involved in the degrowth movement in their respective countries or had themselves written about its history.

The triple denotation of Chapter 5 (degrowth as decline, emancipation, and destination) was an unexpected discovery of this conceptual history. In compiling definitions of degrowth, I noticed certain trends which I found useful to delineate different phases in the development of the term. To double-check that insight, I examined the Wikipedia pages for "*décroissance*," "*decrescita*," "*decrecimiento*," and "degrowth." Using the tracked history function of the

website, I paid close attention to how their content evolved over the years and realised that in all four languages, the same pattern could be observed. Some may quibble with my, admittedly crude, method of analysis, and more careful empirical work would indeed be welcome in the future. For the time being, however, I find the triple denotation useful as a general heuristic to remember that degrowth is a multi-layered concept (if such heuristic had existed in the early days of *décroissance* and degrowth, many of the misconceptions I explore in Chapter 7 would have been avoided).

Controversies

Chapter 7: Controversies explores controversies surrounding the idea of degrowth. I am calling them "controversies" because of the "cartography of controversies" approach, an applied version of Actor-Network Theory initiated by Bruno Latour at the end of the 1990s (for a description, see Venturini, 2010, 2012). The chapter was not planned from the outset; it rather happened as I kept bumping into misconceptions and criticisms in the literature. If anything, I found in the cartography of controversies, not a method per se (I am aware that what I am doing in the chapter is not what Latour would consider a controversy map), but rather the confirmation that looking at controversies was worthwhile. My plan is to use the study of controversies as an opportunity to refine the concept of degrowth (I am thus taking an affectionate position towards degrowth, and not the one of a neutral observer as in the method of Latour).

I kept track of controversies in different ways. I started by gathering the prints of several degrowth periodicals: *La décroissance: le journal de la joie de vivre* (since 2004, France), *Entropia* (2006-2012, France), *Moins!* (since 2012, Switzerland), *l'escargot déchainé* (since 2009, Belgium). Every week or so, I would type "degrowth" and "décroissance" on Google and scroll hunt for relevant content. I also collected a daunting pile of degrowth-related Tweets, which I ended up leaving out of the analysis (given the intellectual depth of most of these "texts," this was merely to protect my readership from sheer absurdity). I have also searched the same keywords on the website of several newspapers like *Le Monde*, *Les Échos*, *Libération*, *Alternatives Économiques*, *The Times*, *Le Temps*. I have systematically checked all the books I could find with the words "décroissance" or "degrowth" in the title. And I gathered all peer-reviewed articles that had been using the term and downloaded a number of academic theses (bachelor, masters, and PhD).

I did not use any qualitative data analysis software because, again, the chapter emerged unexpectedly during what I thought was only a casual reading of the degrowth literature. After several months, it became clear that there were patterns in the ways commentators spoke of degrowth. I started to categorise these discussions into a number of broad controversies (e.g. population, technology, semantic, poverty, recession). With time, I refined these categories into more specific debates, and ultimately, down to the 26 headings that now structure Chapter 7.

As excerpts started to pile up, I realised I would need a specific writing method to present the controversies without burying readers under an avalanche of cited passages. I wanted to leave as much space for direct quotations as to avoid distorting the original text. (The parts in French were translated to English by me, and so this is a possible source of distortion, but the translated text has been reviewed by both native French and English speakers who are familiar with the literature. This mitigates the risks of severe misrepresentation.) I decided to

flock quotations aside from the main text to facilitate reading and to order them chronologically as to be able to keep track of how controversies evolved in time (even though I did not comment on that aspect). I made sure the text reads even without going through all the excerpts; their presence is only the empirical evidence of the controversy being real and not a figment of my imagination.

To ensure the veracity of the analysis, I also contacted several authors whose work I directly criticise, asking them to comment on the text. In doing so, I had lively interactions with David Schwartzman about energy poverty, Corinna Dengler about degrowth in the global South, Stephen Quilley about social complexity and violence, and Jeroen van den Bergh about "agrowth." This allowed me to correct several misrepresentations I had made about their work while advancing the discussions on each specific issue.[1] While I might have offered more questions than answers, I do hope to prove that the discussion is worth having. (In the end, I only did this for a few authors; if I were to start the chapter anew, I would do so more systematically.)

Systems thinking and system analysis

Originating from Jay Forrester's work in the 1960s, system dynamics is a modelling technique inspired by the *systems thinking* worldview.[2] A *system*, according to Meadows (2008: 2), is "a set of things interconnected in such a way that they produce their own pattern of behaviour over time." A marketplace, a pond, or a human body are all systems; anything that has elements that causally affect each other to create a distinct behaviour (Meadows would say a *function* or a *purpose*) can be called a system. A system is defined by its *boundary*, marking the difference between what is endogenous (read: inside) and exogenous (outside) to the system.

The central insight of system dynamics is that the behaviour of a system comes from its structure. "According to the systems view, the essential properties of an organism, or living system, are properties of the whole, which none of the parts have. They arise from the interactions and relationships between the parts. These properties are destroyed when the system is dissected, either physically or theoretically, into isolated elements" (Capra and Luisi, 2014: 65). What I call "myself" is not only the sum of my body parts but also the properties that emerge out of their interactions (consciousness, for example), properties that would not be present should my body parts be stored in individual jars.

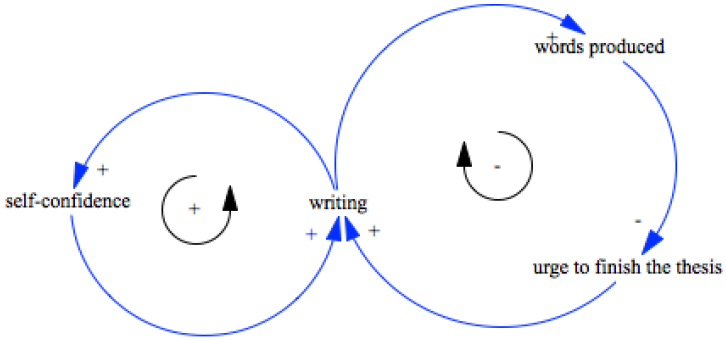
By structure, systems thinkers understand a certain arrangement of "feedback processes" (Meadows, 2008: 25). Also called *feedback loops*, these processes are closed chains of causal events (A affects B which affects A again, and so on). The effect becomes the cause and the cause the effect.

Feedback loops are of two kinds: balancing or negative and reinforcing or positive. A *balancing* feedback loop stabilizes a movement. The more I write the more words I produce; the more words I produce, the less I need to write, and so the less I write (the "-" loop on the

[1] This is necessary to avoid a problematic layering of misunderstanding. To give just one example, Grainger (2019) replies to Phillips's (2019) misconception of degrowth with another misconception of degrowth: "Ultimately, Leigh [Phillips] is right that a steady-state economy should not last forever. So long as we keep developing technologies to decouple growth and environmental damage, *we will eventually be able to resume economic growth*. But a period of no-growth should not be seen as the end of history" (I put the part I find problematic in italics).

[2] For a history of systems thinking, see Capra and Luisi, 2014; for an introduction to systems dynamics see Meadows, 2008, or Sterman, 2000.

right side in the figure below). A *reinforcing* feedback loop does the opposite, it amplifies a movement. The more I write, the more self-confident I get about my writing and the more I write (the "+" loop on the left). The behaviour of a system as a whole (here me writing) emerges out of the interaction between all the feedback loops it includes.



A Causal Loop Diagram (CLD) is a graphic tool to represent the feedback loops of a system. They are composed of nodes representing variables and arrows representing causal relationships. Each arrows bears a polarity (+ or –) indicating the direction of the causal relationship, e.g. more of A is more (+) or less (–) of B. In system dynamics, CLDs are a pre-mathematical step in the building of a model, but because the present thesis is devoid of mathematical models and computer-run simulations, I only use CLDs as simple diagrams, often to communicate an idea that is already there and could have been equally well communicated by only words alone.

Ontology

This section details three ontological assumptions underlying the present study: (1) the definition of the economy as a process of provisioning involving a sequence of five acts (extraction, production, allocation, consumption, and excretion); (2) the division of social reality in the two spheres of real and imaginary; and (3) an understanding of social change as a dialectic movement between ideologies and utopias.

Economy

What is the economy and what it is made of? In an anthropological sense, the economy is the social organisation of need fulfilment. In any community, people spend time transforming energy and matter from nature into goods and services[1] to satisfy their needs and, ultimately, to achieve whatever is perceive to be the "good life."

Defined that broadly, the study of economy aims at understanding all the instituted social activities participating in the reproduction of a given society. A good way to think about the economy as a provisioning system is to try to count the goods and services one uses during a given workday. From tap water to electricity and roads to unemployment benefits, all these

[1] *Goods and services* is a broader category than *commodities*, which one could also call commercial goods and services. By goods and services, I mean any tangible or intangible object or action that satisfy needs or wants.

social-ecological systems intervening in the satisfaction of needs constitutes the *economy*, in the broadest understanding of the term.

The *economy* that I criticise in the dissertation is more specific (I will later write about *de-economisation* and why we should *escape the economy*). Clarifying the difference between the economic system that I see as problematic and this anthropological understanding of economy is a task that runs throughout the thesis. For now, I can simply point to the distinction already made by Aristotle between *oiknonomia* (the daily governance of the home) and *chrematistics*, the accumulation of money. Just like Aristotle, I consider the latter undesirable.

The five acts of provision

This provisioning process can be decomposed into a sequence of five interdependent activities: *extraction*, *production*, *allocation*, *consumption*, and *excretion*.

Extraction renders a natural material available for further transformation (e.g. rosewood in the forest becomes timber in a workshop). *Production* modifies this material (input) as to create a good (output) – timber becomes a chair. *Allocation* transfers the ownership of an asset either via sharing, reciprocity, redistribution, or exchange – chair is being given to a friend, swop with a neighbour, attributed to a fellow citizen, or sold on a market. Once a product has been allocated, it can then be used by a final user, a process that is referred as *consumption* (chair is being sat on). *Excretion* occurs when the product is no longer considered valuable and is thus discarded as waste (worn out chair is thrown away).

All these five processes are inextricably interdependent. There is no point fetching wood to turn on the over (*extraction*) if one is not planning to cook (*production*) and there is not point cooking if nobody is hungry (*consumption*). Moreover, one can only *transfer*, *consume*, or *throw away* something that has been *produced* and so necessarily *extracted* beforehand. Throughout the dissertation, I will use this division to dissect the economy as a whole into a number of institutions and practices.

The four spheres

Let us divide the economy into four spheres: *households*, *markets*, *communities*, and *States*. The household is the smaller unit of economic organisation, which is often centred around family (but a single individual can be a household too). This is the sphere of self-production involving homemade, do-it-yourself goods and services (raising kids, cooking, cleaning, education, maintenance etc.)

A group of people living, working, or playing together form a community that may also organise provision, e.g. housemates splitting chores, members of a shared garden harvesting crops, neighbours watching each other's kids, friends going fishing together. (This is the form of organisation I will later call a *commons*.)

One form this organisation can take is a market, that is an institution where entitlement rights can be transferred between buyers and sellers abiding to a price system. These markets can take a diversity of forms, from local Christmas markets and informal drug dealing to the global trading of financial products and impromptu garage sales.

Another institution that can be set up or used for provision is a government, in all the forms it takes (e.g. local, national, regional, and international levels). Local authorities manage

the allocation of allotment garden, regional organisation distribute hunting quotas, the national government oversees services such as healthcare, justice, and education, and a supranational institution like the European Central Bank handles monetary policy in the Eurozone.

Each of these spheres is associated to a particular logic of allocation. Members of a household tend to *share* resources; members of a community practice *reciprocity*; market participants *exchange* commodities; and a government *redistributes* wealth.[1] In political economy, different systems of provision are characterised based on the relative importance of each spheres (e.g. capitalism with the primacy of markets, socialism with the primacy of the State, or anarchism with the primacy of the community).

One last observation. Often in the thesis, I speak of motivations underlying human behaviour. The simple triad that I use is the following. Motivations (or *incentives* in the jargon of economists) can be of three types. *Financial* (I do something because of a reward, either monetary or in-kind); *social* (I do something in respect of social rules); and moral (I do something in respect of ethical principles).

Real and imaginary

I divide the world into two distinct spheres: the real and the imaginary. Let us first assume the existence of a realm of ideas beyond the visible and material, which we shall refer to as the *imaginary*, in contrast to the *real*. The imaginary is the domain of ideas and is made solely of them while the real is the world of praxis which consists in tangible things. Neoliberalism, courtesy, and Christianity belong to the imaginary while a litre of petroleum, a carbon particle, or a factory belong to the real. The idea of a chair – either descriptive (what is it made of) or normative (is it good or bad) – is imaginary; the actual chair is real by the fact that you can find it somewhere. The use I make of these concepts is quite straightforward and there is no particularly remarkable or complicated meaning hidden behind them.

I use the word "imaginary" literally, *images imagined by imagination*, with imagination being the creation of distorted images of reality. If I imagine myself receiving the Fields Medal, this is because I have not actually received it, otherwise I would not need to imagine, I could simply recall a real event. Images can be more or less distorted. I can easily imagine what it feels to reach the peak of Mount Everest. Creating an image of me at the top of the same mountain, but this time playing chess against a 300-kilo koala who only speaks uttering quotes of Smith's *Wealth of Nations* requires a more significant distortion. The process is nevertheless the same: when I imagine, I produce unrealised images. To imagine is to challenge the factness of the real; it is the ability to be sceptical, to radically doubt the foundations of what we think *is* and *ought to be*. It is the ability to envision things that cannot directly be experienced in reality. It results that the imaginary always mirrors the real, even though the reflection is more or less distorted.

This distinction should not lead us to believe that the imaginary does not exist; it does and is an active organising force of social life. "Just as abstract scientific theories are made real in our lives through the airplanes we fly in, the medicines we take, and the computers we use, economic ideas are made real in our lives through the organizations that employ us, the goods

[1] These come close to the four types of human relations in John Fiske's "Relational Model Theory" (1991): *community sharing*, *authority ranking*, *equality matching*, and *market pricing*.

and services we consume, and the policies of our governments" (Beinhocker, 2006: xi-xii). I would have never cut the tree if I had not thought there was such a thing as a tree; and I would have never cut the tree without having a specific reason to do so, whether conscious or unconscious. The only difference I make here is that the real is concrete (made of actions) and the imaginary is abstract (made of thoughts).

A film is a perfect example of something with both *real* and *imaginary* dimensions. The film is real in the sense that it was made by actual people using energy and materials and that it is embodied in real objects and places; one can download a digital copy of the film on a computer, buy a DVD of it, and go watch it in the cinema. And yet, all of these real attributes could all of a sudden disappear and the film would somehow continue to exist. Let us today destroy all material traces of *Jurassic Park* (1993), its depiction of dinosaurs would continue to exist in our cultural imaginary; in another words, we would still use the film to invent images, for example of a horde of velociraptors feasting through the World Economic Forum.

Let us take two more elaborated examples. Example one: I wear a pink Deliveroo outfit and drive my bike to bring food to people, that is the *real* aspect of the situation. Now, let us imagine two readings of this event. From one *imaginary* perspective, I can see myself as a hard-working, self-entrepreneur, earning a living in an honest manner while bringing pleasure to customers and contributing to societal welfare. And from another *imaginary* perspective, I can identify as a member of the precariat being exploited by a profit-seeking, capitalist firm encouraging a wasteful take-away culture. The real act is the same; the imaginary images that I project onto the act are different.

Ideology and utopia

In the film *The Matrix* (1999),[1] Morpheus, leader of the rebellion, is presenting Neo with a choice: blue pill or red pill.[2] Neo's choice here perfectly captures a crucial assumption at the heart of this thesis: the difference between two types of political imaginaries, ideology and utopia. The blue pill is ideological for that it reinforces the status quo and the red pill is utopian because it aspires to change it. From this simple division, human history appears as an endless sequence of blue and red pills, including the societal choice that will occupy us in this dissertation: the blue pill of Growth and the red pill of Degrowth.

Although ideology and utopia are well-studied concepts, either in political science and sociology or literature and the arts, only two scholars have theorised them together. In 1929 [translated in English in 1936], German sociologist Karl Mannheim (1893-1947) published a collection of essays under the title *Ideology and utopia*. The insight I borrow from him is that what differentiates an ideology from a utopia is the role a worldview plays in a specific cultural

[1] For readers unfamiliar with the film, redcommander27 (no date) describes the plot as follows: "Thomas A. Anderson is a man living two lives. By day he is an average computer programmer and by night a hacker known as Neo. Neo has always questioned his reality, but the truth is far beyond his imagination. Neo finds himself targeted by the police when he is contacted by Morpheus, a legendary computer hacker branded a terrorist by the government. Morpheus awakens Neo to the real world, a ravaged wasteland where most of humanity have been captured by a race of machines that live off of the humans' body heat and electrochemical energy and who imprison their minds within an artificial reality known as the Matrix. As a rebel against the machines, Neo must return to the Matrix and confront the agents: super-powerful computer programs devoted to snuffing out Neo and the entire human rebellion."

[2] Morpheus's line in the *The Matrix* (1999): "After this, there is no turning back. You take the blue pill – the story ends, you wake up in your bed and believe whatever you want to believe. You take the red pill – you stay in Wonderland, and I show you how deep the rabbit hole goes."

context: ideology reinforces the prevailing common sense whereas utopia subverts it. While the dialectic motion Mannheim creates is powerful, he is neither precise nor consistent in the way he defines what ideology and utopia are. Even more problematic, he depicts them as illusions non-congruent with reality and considers possible and desirable to see the world as it really is without the perverting effect of any of them. In this part, I keep the dialectic relation, reject the absolute rationality assumption, and attempt to be more precise in defining ideology and utopia.

Based on notes from a series of 18 lectures given at the University of Chicago in the Fall of 1975, French philosopher Paul Ricoeur (1913-2015) published *Lectures on Ideology and Utopia* in 1986 [originally published in English]. The series included only two lectures on Mannheim and so Ricoeur's addition to the topic at hand is limited. While he accepted Mannheim's dialectical relation, he brought his own way of defining ideology and utopia showing that they could both take negative (distortion for ideology and fantasy for utopia) and positive forms (legitimation and integration for ideology, emancipation and exploration for utopia). As to the "free-floating intellectuals" of Mannheim who could see *through* ideology and utopia, he rejected that possibility affirming that people are forever caught in worldviews (even though he admitted that certain people are better than other at thinking critically about them). Although my knowledge of both authors is admittedly limited, I did not find much more in Ricoeur compared to Mannheim's initial theory, except more clarity, perhaps due to a more accessible lecture format.

Fundamentally, the question at hand is a broad one: How do societies produce political ideas and what is their impact on practices? If degrowth is about the decolonisation of the imaginary of growth, it is of utmost importance to understand the dynamics of the social imaginary. This is the purpose of this part.

What are ideology and utopia made of?

The quick answer to the question of how societies think is to say that they embrace ideologies and utopias. Just like an individual needs a simplified representation of reality (one could say a map or a model) in order to effectively function, so does a group. People living together need to coordinate, which involves agreeing on certain facts and values. I call these particular systems of ideas *political imaginaries* (I add the political as to differentiate them from religious, artistic, or scientific imaginaries).

Ideology and utopia are composed of the same two elements: an empirical *ontology* dealing with what exists (e.g. Is climate change real? Are people inherently self-interested? Does economic growth reduce inequality?); and (2) a normative *ethos* that ascribes sentiments to different states of the world (e.g. Is it a good thing that the climate is changing? Is it right to behave in a self-interested manner? Is inequality justified?). Of course, the factual description and the moral prescription are often – if not always – entangled. It is the combination of these two elements that I will refer to as a *worldview*.[1]

At the individual level, the two types of worldviews (ideology and utopia) perform the same function. They are the software running the basic operating system used to think and act, to imagine (in its literal sense: creating images of) the past, the present, the future, ourselves

[1] Let it be individual or collective, these imaginaries cannot be seen with the naked eye or recorded or instruments but are nonetheless constitutive of reality. Both of them are invisible. If usually people affirm for material objects that they will "believe it when they see it," the social imaginary functions in the reverse manner: you will only "see it once you start believing in it."

and others. A worldview frames belief and guides action, with different worldviews giving different answers to the same question. Each of them is true but the truths are not the same because they rely on different facts and values.

Speaking of "worldview" does not imply that social imaginaries are personal. Instead, they are intersubjective. This means that even though they do come from individuals and are carried by individuals, they can survive the disappearance of them. Said differently, the social imaginary is not *in* people but *in between* them – it is the expression of a collective consciousness. It results that there can be no ideology or utopia without a community. Someone stranded on a desert island has neither an ideology nor a utopia, his or her thoughts have nothing to be opposed or reflected and so they just are. For a social imaginary to come into existence requires at least an additional person. And then, these people need to disagree on political matters. And so, as long as people are several, and as soon as they disagree, the dialectic of ideology and utopia is at play.

Ideologies and utopias can take various forms. Anything with symbols can be a carrier of political ideas: manifestos, speech, or novels, but also paintings, ads, and political programmes. What I will be arguing in the third part of the monograph is that utopia can live in policy proposals. When someone argues that people work too much and that work time reduction will lead to an alternative, better life, this is the expression of a utopian impulse.[1] One could have also written a novel describing the perfect life of a worker living in a society that would have introduced such policy; the political imaginary substance would be the same.

But ideology and utopia are a matter of discourse rather than language (Eagleton, 1991: 9), that is speech with a purpose. Meaning is contextual; if Thomas More had published *Utopia* (1516) on the actual island he described in the book (granted it existed), the text would have been ideological for that it praises the social arrangements that are dominant. The same doctrine can then be both utopian and ideological at two different points in time. (Consider neoliberalism; it was a utopia when discussed by the members of the Mont Pélerin Society in the 1940s but became ideology in UK and the USA in the 1980s.)

Ideology

Ideology is the political worldview that is considered commonsensical, natural, or appropriate in a given cultural context. It is the default mode of thinking, relying of facts and values that are collectively believed to be true and laudable. In brief, ideology is the orthodoxy.

"Hacking the PDF of a book is theft," and "stealing is wrong" are likely to be considered self-evident statements in contemporary French society. It is because this worldview is agreed on by many and embedded in institutions, to the point where stealing comes to be considered an act against the general interest of society. If *everybody knows* that such action constitutes theft and that stealing is wrong, then it is ideology – the belief that one is not "believing" (i.e. holding unquestioned beliefs) being the characteristic mark of ideology.

Ideology is cultural glue: it ensures the stability of a group's identity, unifying and holding people together. By the force of a common narrative, it maintains the present as it is

[1] Imaginary substances can also be embedded into objects and institutions, again situated in a cultural context. Using money at the Climate Camp where all relations are demonetised is utopian for that the act criticises the status quo. In contrast, buying cheap clothes as to promote a global capitalist economy is an ideological practice. Both the currency as an institution and the clothes as an object are imbued with imaginary meanings.

and rationalises a situation to make it appear logically sound and morally acceptable. As such, ideology acts as a force of preservation and legitimates the power of whatever social group happens to be dominant.[1] Continuing the previous example, the doctrine that downloading a digital book constitutes theft and that stealing is wrong performs the function of deterring such actions, then protecting those who are content with conditions as they are (for instance, the commercial publishers of the books).

The outcome of ideology are routines and path-dependency. It exerts a gravity field over political imagination, making it more difficult to do things a different way that they are already being done. If I want to read a book, I buy it in a shop (instead of, for example, contacting the author to obtain a free digital copy). It is the *habitus* of Bourdieu (1977), a disposition to act one specific way. This does not mean that ideology leads to inaction. It is action-oriented but only including actions of a certain kind, namely those that one would be expected to do in a specific cultural setting.[2]

Ideology is inherently *conservative* (in the literal sense of "averse to change") as it seeks to explain and justify the status quo. It is a protective house in the social imaginary against ideas and behaviours that threaten social stability. It should then be clear that ideology is not inherently bad for that it can legitimate anything: private property over books but also private property over one's organs, exploitation or philanthropy, economic growth or degrowth.

Utopia

Utopia is counter-ideology; it is the heterodoxy that aspires to become orthodoxy.[3] It is also made of facts and values but these are incongruent with what is culturally taken for granted. Describing the hacking of a digital book as a desirable liberation of knowledge is utopian in France where public authorities have recently decided to block the pirate website Sci-Hub for illegally providing copyrighted scientific texts.

A utopia is strange, or rather, it is a device of *estrangement*. Unlike ideology that is invisible, utopia is all too visible, disturbingly visible even. In fact, what utopia does is to render ideology visible; to not only show that what was thought to be universal, spontaneous, unaltered thinking and practice is actually socially constructed, but also to demonstrate that it is either inaccurate or wrong or both at the same time.

A utopia includes two elements: a critique and an alternative.[4] The critique has to do with *awareness* (after taking the red pill, Neo realises that what he used to perceive as reality is an illusion) and *intention* (realising that machines are using humans as fuel, Neo is determined to liberate his species). Without critique, there cannot be any utopia because the

[1] "A dominant power may legitimate itself by *promoting* beliefs and values congenial to it; *naturalizing* and *universalizing* such beliefs so as to render them self-evident and apparently inevitable; *denigrating* ideas which might challenge it; *excluding* rival forms of thought, perhaps by some unspoken but systematic logic; and *obscuring* social reality in ways convenient" (Eagleton, 1991: 5).

[2] Here is another example. Paying your bill at the restaurant is commonly expected and so one could call this an *ideological* practice as it relies on assumptions and beliefs supporting this action as being right; paying everybody's bill is odd, and could then be considered *utopian*, perhaps as a critique of individualist consumer society pointing towards how much desirable a gift society would be.

[3] The word "utopia" was coined by Thomas More in a 1516 book that is remembered as *Utopia*, where he describes a fictional island community of near perfect qualities located somewhere in the Atlantic Ocean. By conjoining the Greek "u" from the prefix "ou" meaning no or not and the nouns "topos" (place or where), More created a "nowhere" or "noplace," which he also intended as a pun, the pronunciation of "utopia" being close from "eutopia" (happy place) (Sargent, 2010: 2).

[4] One could also say: deconstruction and reconstruction, fear and desire, negation and affirmation, divestment and investment.

present reality is already perfect – a world which is made but no longer in the making. And without alternatives, there can be no diversion from the real. If ideology results in obedient and expected routines, utopia leads to subversive and surprising actions.

The function of utopia is to criticise and subverts – to "break the bonds of the existing order" (Mannheim, 1936: 173).[1] It questions the prevailing commonsense by providing an external vantage point, often taking the form of a faraway island, another planet, or future worlds.[2] The depiction of a sustainable society in *Ecotopia* (1975) creates an observation post to realise – and then criticise – how unsustainable the American consumer culture of the 1970s is. A utopia always happens *against* social reality; it requires an effort to imagine something that would have not happened under society-as-usual. The utopia is impossible to think of, the ideology is impossible not to think of. Again, it is the context that makes an idea utopian (e.g. rights to vote for women was utopian a century ago, it is not anymore). And just like ideology, utopia is neither good or bad.

Revolution as ideational shift

The *social imaginary* is a landscape made of ideologies and utopias. I call it an *ideational regime* to stress the fact that such landscape is a dynamic, ever-changing power structure that evolves via regime shifts. An ideational regime describes a specific balance between a system of ideas that has come to become dominant (*ideology*) and other competing systems seeking to replace it (*utopias*).

Social change is what occurs every time a utopia comes to replace an ideology.[3] "[E]very historical event," writes Mannheim (1936: 178), "is an ever-renewed deliverance from a topia (existing order) by a utopia. […] the road of history leads from one topia over a utopia to the next topia etc." Or in plain language, "every epoch dreams its successor," said French historian Jules Michelet (1798-1874).

Back to *The Matrix* (1999). With its fair share of violence, the firm perfectly exemplifies the conflictual character of the dialectical relation. Like the "agents" in the story (sentient computer programs who hunt down Redpills), ideologists are systematically trying to repress utopian impulses while utopians are systematically trying to rebel against the system in place (even though, depending on one's intellectual autonomy, one may be more or less conscious about these invisible impulses).

As I will show in Chapter 7, pro-growth commentators deny the validity of degrowth by calling it impossible or nonsensical. Arguing that degrowth is an apology of recession is an ideological misconception, which acts in defence of a system where a lower GDP is necessarily something to be dreaded. "It is always the dominant group which is in full accord with the existing order that determines what is to be regarded as utopia, while the ascendant group which is in conflict with things as they are is the one that determined what is regarded as ideological"

[1] "Only those orientations transcending reality will be referred to by us as utopian which, when they pass over into conduct, tend to shatter, either partially or wholly, the order of things prevailing at the time" (Mannheim, 1936: 6).

[2] What a utopia does is to provide "the ability to conceive of an empty place from which to look at ourselves. […] From this 'no place' an exterior glance is cast on our reality, which suddenly looks strange, nothing more being taking for granted. The field of the possible is now open beyond that of the actual" (Ricoeur, 1986: 15-16).

[3] The dialectic of ideology and utopia does not manage on its own to explain social change and thus does not constitute a complete theory of history. It is easy to claim that revolutions do not occur in an ideational vacuum and so that any change in the *real* is necessary preceded – or followed – by one in the *imaginary*. Yet, finding out which one of the material or ideational dimension initiate the change is a whole other enterprise, one that will be left unexplored here.

(Mannheim cited in Ricoeur, 1986: 203). Defenders of ideology brand others as "utopians" in the pejorative sense of wishful lunatics; and the defenders of utopia brand them back as "ideologists" in the pejorative sense of blind conservatives.

The argument that will unfold throughout the dissertation is that the political ecology of this early 21st century can be framed as a struggle between the ideology of Growth and the utopia of Degrowth. Understanding this confrontation is the task ahead of us.

Summary

In addition to this introduction, the monograph consists of twelve chapters divided into three parts and a conclusion. **Part I** (Chapter 1, 2, 3, 4) explores the nature, causes, and consequences of economic growth. **Part II** (Chapter 5, 6, 7) untangles the idea of degrowth, especially its history, theoretical foundations, and controversies. **Part III** (Chapters 8, 9, 10, 11, 12) addresses the transition from the ideology of growth to the utopia of degrowth. What follows is an overview of the central arguments of each part and chapter.

Part I: Of growth and Limits

The main idea behind **Part I** is that economic growth is not only a real world phenomenon but also an ideology – what has been termed *growthism*. To deconstruct this ideology, as degrowth aspires to do, one must first understand how it was constructed, how it functions, and what would justify its abandonment.

> **Chapter 1: Understanding economic growth** answers a series of questions: What is it, exactly, that grows? By how much does it grow? When and where does it grow? How does it grow? And why should it grow?
>
> To the *what*, I posit that "the economy" as understood today is a recent invention dating from the beginning of the 20th century. In the *how much*, I tell the story of Gross Domestic Product (GDP) and its consequences for social organisation. The *when* and *where* show that the phenomenon of economic growth only began around the time of the European Industrial Revolution, that it peaked after the Second World War, and that it did not happen everywhere in the same measure. The *how* explains that an economy does not grow but rather expand and intensify, and that these dynamics are structural outcomes of today's economic system. It does so by drawing on five factors (nature, labour, tools, knowledge, and institutions) and depending on three drivers (income-driven consumerism, profit-driven productivism, GDP-driven growthmanship). In the *why*, I show how the worldview of economic growth as progress became a self-perpetuating social imaginary enshrined in both institutions and identities.

I conclude the first chapter by suggesting that economic growth has a more complex social and ecological life than it is usually accredited in economics textbooks. The general picture emerging from the analysis is that economic growth is a structural feature of today's economy.

Building on that understanding, the next three chapters unfold the triple objection to economic growth that, I argue, constitutes the *why* of degrowth.

Chapter 2: Biophysical limits to growth argues that sustained *economic growth is ecologically unsustainable*. The chapter opens by demonstrating that economy and ecology are fundamentally entangled. In biophysical terms, the economy is a societal metabolism that uses energy and matter as inputs to produce goods and services before expulsing them back as waste. That process is sustainable only if that throughput remains within the limited regenerative capacities of ecosystems.

As for decoupling GDP and environmental pressures, I show that there is no empirical evidence warranting the hopes currently invested into the idea of green growth. Not only has the absolute, global, lasting, and sufficiently fast and large-scale decoupling that would be necessary to guarantee ecological sustainability never happened, but is also extremely unlikely to ever happen. This for seven reasons: (1) rising energy expenditures, (2) rebound effects, (3) problem shifting, (4) the underestimated impact of services, (5) the limited potential of recycling, (6) insufficient and inappropriate technological change, and (7) cost shifting.

The main point of this chapter is that one cannot both have the environmental cake and eat it too in the form of economic growth.

Chapter 3: Socioeconomic limits to growth argues that *economic growth is not socially viable*. Its first section examines cases of secular stagnation from neoclassical and Marxian perspectives with the hypothesis that these may not be anomalies but rather a return to normal, that is, the absence of economic growth that has characterised most of human history.

The second section shows that stagnation is linked to a broader crisis of social reproduction. The expansion and intensification of the realm of commodities often occur at the expense of the social fabric. Continued unabated, the process of accumulation via social deterioration erodes an array of psycho-social factors of reproduction that are crucial for all forms of production, including the one of market products. Like a snake biting its own tail, economic growth is limited because it is inevitably based on the unsustainable exploitation of the reproductive labour on which it depends.

The main point of this chapter is that infinite growth is impossible in a community whose capacity to replenish its ability to produce is finite.

Chapter 4: Social limits of growth argues that *economic growth is not socially desirable*. The claim unfolds in three steps by examining the links between GDP and the triad of outcomes it is generally believed to deliver: employment, equality, and well-being.

While GDP is positively correlated to the level of employment, the strength and direction of this relation varies strongly between places and time periods while

its directionality remains a matter of controversy. In cases where economic growth does create jobs, there is no guarantee that these are decent quality jobs.

Economic growth can lower inequality as much as it can increase it, and empirical evidence over the last decades indicate the latter. As such, economic growth should not be considered a substitute for redistributive policies.

As for well-being, after a certain threshold, increases in material standards of living do not make people better off. This is explained psychologically by the fact that we recurrently habituate to new levels of comfort (hedonic treadmill) and sociologically by the phenomenon of positional competition in which people compete in a zero-sum game for prestige (positional treadmill). Instead, economic growth can directly lower levels of well-being by creating social anxiety over status, overwhelming consumers with too many options, encourage consumerism in place of activities that directly contribute to happiness, and by administrating desires towards dissatisfaction.

The main point of this chapter is that more GDP does not necessarily rhymes with a better life.

The central claim of this first part is that economic growth is no longer *possible* (Chapter 2), *plausible* (Chapter 3), and *desirable* (Chapter 4). The story of growth as an ever-lasting, throughput-reducing, employment-creating, inequality-cutting, and welfare-providing process does not withstand either theoretical or empirical scrutiny. Not only is growth a false solution but it is also a true problem sustaining the degradation of both communities and ecosystems. But if growthism is a dead-end, what should come to replace it? This question is the topic of the second part of this monograph.

Part II: Elements of Degrowth

Whereas **Part I** diagnosed economic growth as the problem, **Part II** offers a solution. The central proposition is that degrowth is a powerful utopia with the capacity to topple the ideology of growth. After showing that, far from being a natural phenomenon, economic growth was a societal choice, the following three chapters investigate what might follow if we make a different choice.

Chapter 5: Origins and definitions is about the history of the concept of degrowth. Although sprouts surfaced in the 1960s and 70s in the form of diverse objections to economic growth, the term degrowth as understood today was born in France at the beginning of the 2000s.

In 2002, the environmental activist magazine *S!lence* released a special issue to introduce the term "*décroissance soutenable*" (sustainable degrowth), a slogan to criticise the celebrated "*développement durable*" (sustainable development). The term attracted interest and led to a number of symposiums and publications and eventually laid the foundations for a social movement and a political party.

In 2008, décroissance became *degrowth* at the first international conference on the topic. Seven international conferences later, degrowth has become a proper

field of academic studies and an international social movement present in Italy, Catalonia and Spain, Québec, Belgium, Germany, and elsewhere.

Reflecting upon that history, the main finding of the chapter is that the contemporary meaning of the term emerged successively, with layers of denotations being added on top of each other: degrowth as decline (type-1), degrowth as emancipation (type-2), and degrowth as destination (type-3).

Chapter 6: Theoretical foundations is an attempt to systematise the multitude of ideas that have aggregated under the degrowth colours. I elaborate a normative theory of degrowth in three steps.

I interpret degrowth as de-economisation: a reduction in the importance of economistic thoughts and practices in social life.

I define three universal degrowth values. (A) *Autonomy* is an individual and collective principle of freedom understood as self-limitation. (B) *Sufficiency* is a rule of distributive justice stating that everyone today and tomorrow should have enough to satisfy their fundamental human needs and no one should have too much in relation to planetary boundaries. (C) *Care* is a principle of non-exploitation that promotes solidarity towards humans and non-humans.

Putting these values into practice, I discuss a number of implications for activities of provision (extraction, production, allocation, consumption, and excretion). I summarise these insights as a list of 15 principles, which I present as guidelines for economic life in a degrowth society. (1) resource sovereignty, (2) sustainability, (3) circularity, (4) socially useful production, (5) social enterprises, (6) proximity, (7) convivial tools, (8) postwork, (9) value sovereignty, (10) commons, (11) gratuity, (12) sharing, (13) voluntary simplicity, (14) relational goods, and (15) joie de vivre.

Chapter 7: Controversies reviews attacks launched at degrowth. Degrowth has, and is still, incurring the wrath of a horde of detractors, but I show that many of the charges miss their target.

Degrowth is misconstrued as sixteen things it is not: (1) a recession; (2) synonym with decrease; (3) a total rejection of technology, (4) science, (5) and innovation; (6) a nostalgic call for turning back the clock and (7) an opposition of progress; (8) neoliberal austerity and (9) individual self-abnegation; (10) State oppression, (11) closed sectarianism, and (12) a form of survivalism; (13) an apology of poverty and (14) a form of neo-colonialism; (15) an economic solution to scarcity; and (16) a new form of capitalism.

After untangling these misunderstandings, the second section addresses criticisms towards degrowth. I present and comment on nine critiques: (1) a linguistic critique that sees the term “degrowth” as deterrent; (2) a well-being critique that flags the potential risk of degrowth in terms of happiness; (3) a denatalist critique that dismisses degrowth for ignoring population issues; (4) a Marxist critique that sees degrowth as insufficient to overthrow capitalism; (5) a

welfare critique that points to the dependence of the welfare state on economic activity; (6) a feminist critique that fears that de-economisation and technological abstinence might lead to a return of oppression; (7) an environmental critique that considers degrowth too democratic for its own good; (8) a cosmopolitan critique that worries degrowth might expose societies to a return of coercion, violence, and domination; and (9) a global South critique that suspects a Westernising Eurocentrism.

The take-home message of **Part II** is that degrowth is not only a critique of growth but also a fully-fledged alternative to the growth society. Although used by a diversity of actors (Chapter 5), the idea is still narrow enough to be summarised as a set of stable features (Chapter 6), even though the ins and outs of these features and their consequences are constantly under discussion (Chapter 7). If Growth is the current reality of most nations in the world and Degrowth its desirable destination, what are the options available to build a bridge between the two? After **Part I** pointing to the limits of the growth society and **Part II** proposing an alternative to it, **Part III** looks at the bridge, that is, the different ways to transition from one to the other.

Part III: Recipes for Degrowth

This final part goes from theory to practice and translates the values and principles of degrowth into operational transition strategies. The central idea is that degrowth requires not one but a diversity of changes whose interactions must be carefully considered. A degrowth transition requires both ingredients (individual policies) and recipes (transition strategies).

Chapter 8: Strategies for change inventories the policies that have been mobilised by degrowthers.

The first two sections build a conceptual framework for the task. I start by defining three attitudes toward change (opposition, reformism, alternative) and four spheres where change happens (individual, community, market, State), giving a total of twelve different flavours to characterise degrowth proposals. Second, I define "policy" broadly as *any course or principle of action adopted or proposed by an organisation or individual*, which allows me to include, not only public interventions, but also policies on the personal, private, and communal levels. I then decompose a policy in several elements, mainly goals, objectives, and instruments.

Now conceptually equipped, I enquire to count the different policy elements among existing degrowth agendas. Starting from the only existing repertory of degrowth policies (Cosme et al., 2017), I add all the ones proposed in the six campaigns of the French degrowth party (2007-2019), the ones of the Finnish *kohtuusliike* manifesto, as well as a number of lists from individual authors. The outcome of this part is a master list of all these proposals: 60 policy goals, 32 policy objectives, and 140 policy instruments (available in Appendix 5).

In the final section, I repeat the same operation with degrowth entries from the French *Grand Débat National* (2019), this time counting 86 goals, 103 objectives, and 213 policy instruments (available in Appendix 6). Reflecting on this

exercise, I conclude that existing proposals are too vague, sometimes incongruent and incoherent, and often poorly structured – in short, no good enough for application.

It may be true that policymaking is not degowth's strong suit at the moment, but the fact that proper policy work is yet to be done does not mean that it cannot and will not be done. In the next three chapters, I design a policy agenda for degrowth around the three specific themes of property, work, and money. The hypothesis I make is that operationalising degrowth means de-economising these three institutions, that is, redesigning them according to the values and principles described in **Part II**. The three chapters are identical in structure: an initial section defining key concepts from a degrowth perspective followed by a decomposition of each theme into a number of goals, objectives, and policy instruments.

Chapter 9: Transforming property challenges the hegemony of private property over other ownership regimes and outlines how to ensure a fair redistribution, distribution, and pre-distribution of wealth.

Goal 1: Sharing possessions. The already accumulated wealth in all its existing forms (money, debt, entitlements, and possessions) should be redistributed to guarantee that everyone has enough without no one having too much. I suggest to make the income tax system more progressive with the addition of new brackets concerning high income (80% above €73,779 and 100% above €90,000 per year); to introduce a similar ceiling on personal wealth (100% above €2 million); and to grant a monthly universal autonomy allowance composed of a mix of national money, alternative currencies, and free access to goods and services, all of them varying in quantity depending on factors such as age, health status, affluence, ecological footprint, activity, and geography.

Goal 2: Democratic ownership of business. The wealth created through production should be fairly split between a variety of stakeholders. The ideal-type of a degrowth firm should be not-for-profit, small enough to be democratically managed, and organised as a cooperative. As an instrument, I point to the French Collective Interest Cooperative Company (SCIC) as the business model closest to that ideal. I recommend fiscal measures to advantage such businesses (e.g. exemption from corporate tax and priority for public procurement) while disadvantaging for-profit, large, and privately owned firms (e.g. higher taxes).

Goal 3: Stewardship of nature. Preventing the private appropriation of natural resources and amenities lowers the risk of economic inequality while also avoiding ecological exploitation. Both extraction and excretion should be limited to sustainable levels by granting intrinsic legal rights to nature, managing resources as commons, as well as banning certain practices and capping or taxing others. The suggested instrument is a capping scheme with personal energy quotas similar in design from the Tradable Energy Quotas (TEQs) imagined by Fleming and Chamberlin (2011).

Chapter 10: Transforming work means spending less time in employment, changing the content (what is being produced and why) as well as the form of work (how it is being produced and by whom), and reducing the importance of wage-labour and the work ethic in society.

Goal 4: Work time reduction. Time spent in employment should be reduced for ecological (lessen environmental pressures) and social reasons (work sharing to redistribute employment, safeguard health and well-being, and increase leisure time). To achieve this goal, I advise to reduce time spent in paid employment by half while giving a number of options regarding the form it could take (e.g. Fridays off, a 6-hour workdays, daily naps, red days, work breaks) and how it is to be organised (through collective agreement, enshrined in national law, flexible in the form it takes, and financed in a redistributive fashion).

Goal 5: Decent work. Work should be socially useful and ecologically sustainable and it should not endanger workers' health, safety, and dignity. All workers should be guaranteed fair wages and benefits and the undesirable jobs should be equally shared by those who can work. As for autonomy, decent work should empower workers to gain agency over their own work. The policy instrument I associate to this goal is the overall practice of self-management understood as democratic decision-making regarding the purpose, methods, and organisation of productive activities.

Goal 6: Postwork. The work ethic and the cult of employability should be opposed. Work should shift from the abstract pursuit of money to the concrete satisfaction of needs. *Time* should cease to be treated as a commodity and become qualitative and concrete. What happens outside of work should not be considered a mere left-over but the essence of life itself. Limits should apply to the specialisation of professions for the sake of conviviality and democracy. To achieve such objectives, I describe a locally and democratically managed job guarantee scheme that would create decent jobs with decent living wages and non-packed schedules for anyone able, ready, and willing to work.

Chapter 11: Transforming money means challenging the hegemony of general-purpose money in favour of monetary pluralism, taking back control over monetary governance, and imposing limits to the financial sphere.

Goal 7: Monetary diversity. By regaining control over the design of a currency, money can be used as a vehicle for social and moral values, thus re-embedding economy in society. Alternative currencies can be used to encourage responsible consumption, relocalise economic activities, and serve as an intermediary step towards a complete demonetisation of provision. The generalisation of alternative monies such as Local Exchange Trading Schemes, time banks, and convertible local currencies requires legislative, fiscal, and financial help from public authorities, as well as support from consumers and businesses.

Goal 8: Sovereign banking. Democratic control over the creation of money puts an end to the commoditisation of credit and the pressure it puts on economic

growth and inequality. It ensures an equal access to money and enables a more selective strategy of investment that favours sectors that are benefitting the common good, turning money into a public utility. To achieve these objectives, I detail a sovereign money reform where the power to create money is taken away from for-profit commercial banks in favour of a democratically managed central bank and a decentralised network of community banks.

Goal 9: Slow finance. If the financial sphere is disproportionate to the rest of the economy, slowing down finance means de-financialising: dismantling large banks, ensuring a sound division between credit and investment activities, banning dangerous financial products, and imposing price controls on certain transactions. All remaining financial activities must be ethical as in motivated by social and ecological missions and not by the maximisation of financial returns. To achieve these objectives, I propose to introduce a tax on financial transactions with differing rates and to empower public agencies to regulate financial markets.

This agenda is an answer to the "yes, but how" question. Taken together, these three chapters form a policy programme for degrowth composed of 9 goals, 31 objectives, and a diversity of policy instruments organised into 9 bundles.

Goal 1: Sharing possessions
max. income, max. wealth, basic income

Goal 2: Democratic ownership of business
social enterprises

Goal 3: Stewardship of nature
eco-limits

Goal 4: Work time reduction
work time reduction

Goal 5: Decent work
self-management

Goal 6: Postwork
job guarantee

Goal 7: Monetary diversity
alternative currencies

Goal 8: Sovereign banking
sovereign money

Goal 9: Slow finance

limits on financial transactions

Following the recipe analogy, the ingredients are now selected but the cooking remains. The final chapter of the thesis takes this final step and shows how the individual policies would interact together. Its purpose is to articulate isolated proposals into a coherent transition strategy and to critically reflect upon that strategy.

> **Chapter 12: Transition scenarios** presents a method to study how several policies would interact with each other. The method consists of four steps: (1) the decomposition of each bundle of policy instruments into a hierarchy of specific changes; (2) a comparison of each policy in terms of timing, compatibility with the existing legal and cultural infrastructure, popularity, stakeholders and scale of implementation, as well as risks; (3) a study of the expected impact of policy interactions with the help of Causal Loop Diagrams; and (4) the design of couplings between each instruments to improve the effectiveness of the strategy as a whole. I apply this method to my policy programme for degrowth. The exercise yields a number of insights, most importantly the fact that operationalising degrowth is not as complex and fanciful as its detractors would like (us) to think.

The central claim of **Part III** is that degrowth is a powerful conceptual tool to think about transformations for sustainability. What I do for property, money, and work can be repeated for other themes, and the method of the last chapter can be applied to a variety of contexts. What I hope to show throughout these twelve chapters is that degrowth provides an exciting opportunity to challenge the way we see the economy, and this in order to further the quest for social-ecological justice.

Prologue

LET me invite you into a wild thought experiment. Imagine that in one year, it will all stop. In precisely 365 days, the "economy" will come to a halt. No more extraction, no more exploitation; no more selling, no more buying; no more employees and employers, no more debtors and creditors. Imagine the economy gone and all of us frozen in social time, suspended between the past and the future. A societal *time is up*. At that point, we will have to anew come to an agreement on how to organise the way we provide for ourselves. What is the good life and how should we go about pursuing it? It will be nothing short of a total re-redesign of the rules of the economic game. But how to prepare ourselves for such a daunting task? What will we want to know before making such decisions? Preparing for such a choice is the purpose of this dissertation.

Part I

Of growth and limits

Introduction

The social and ecological life of Growth

GROWTH has become the defining dogma of our time. Its description in the 1960s as "the most respectable catchword in the current political vocabulary" (Mishan, 1967: xvii) is even more salient today. From newspaper headlines to economics textbooks, from government reports to boardroom agendas, economic growth is everywhere.

Yet, its ascendancy has not occurred without backlashes. In the context of the 1970s oil crises and following the publication of the Club of Rome report in 1972, concerns arose as to whether continuously increasing levels of national output were possible or even desirable. Most of those critiques went unheard, and almost half a century later, economic growth has become the supreme goal of both public and private life.

In the collective imaginary, the "elixir of economic growth" (Snowdon, 2006) is now considered as the ultimate solution to economic, social, and environmental problems – "the fast track to general prosperity, as normal and natural as sunrise" (Dale, 2019).[1] Not only has Gross Domestic Product (GDP) become a cure for a wide array of seemingly unrelated issues such as inequality, poverty, and pollution, but it has become the metric of possibility for policymaking itself. In the UK, the Deregulation Act of 2015 even includes a "growth duty" establishing that "a person exercising a regulatory function […] must […] have regard to the desirability of promoting economic growth" (Legislation.gov.uk, 2018).

But what if economic growth was more of a problem than a solution? After the Global Financial Crisis and in the midst of an ongoing Great Recession with economies plagued by unemployment, inequalities, and the threat of environmental breakdown, the time has come to scrutinise the growth "remedy."

The drive to increase GDP is only a small and most visible part of a broader ideology of economic growth, which will be referred to as *growthism*.[2] Here I make a distinction between

[1] The reactions of several politicians after the 9/11 attacks are telling: "Our financial institutions remain strong, and the American economy will be open for business as well" (George W. Bush, President of the United States); "people should go about their daily lives: to work, to live, to travel and to shop" (Tony Blair, British Prime Minister); "it is time to go out and get a mortgage, to buy a home, to buy a car. […] The economy of the world needs people to go back to their lives. […] It is the way to fight back" (Jean Chrétien, Canadian Head of Government); "there is a way that everyone can help us, New Yorkers and everybody all over the country. Come here and spend money […]. And go shopping, we're the best shoppers in the world" (Rudy Giuliani, Mayor of New York City).

[2] Only after writing this chapter did I realise in reading Schmelzer (2016: 7) that the term "growthism" had already been used in the 1970s by Paul Ehrlich and is still employed today by Scoot O'Bryan in *The Growth Idea: Purpose and Prosperity in*

economic growth (the economy getting larger in terms of GDP) and growthism to describe a "material, institutional, and mental infrastructure" (Eversberg, 2018: 104) in which economic growth is conceived as "necessary, good, and imperative" (Kallis et al., 2108: 44).[1]

Economic growth is both real and imaginary; a social-ecological and cultural phenomenon, or rather, a cultural event with social-ecological repercussions. It is social-ecological because a growing economy affects its social and ecological surroundings. Under certain circumstances, economic growth can increase inequality, depreciate individuals' knowledge and skills, or erode community; and overusing natural resources can generate an array of environmental risks. And it is also cultural because, as an ideology, growth shapes both institutions and identities.

When defined as a total social-ecological fact,[2] growthism becomes an analytical connector between a diversity of issues. While the real phenomenon of growth has been abundantly studied, there are relatively few commentaries about its role in the cultural imaginary. Therefore, the key originality of this part lies in investigating the production and reproduction of the ideology of growth and its implications for social-ecological justice. This in-depth criticism of the logic of growth is necessary to avoid falling into two archetypical traps present in growth discussions: considering economic growth as either a force of culture completely disconnected from the biosphere (the subjective fallacy), or as a force of nature fully determined by the biosphere (the objective fallacy).

The goal of this first part of the dissertation is to *politicise* the concept of growth, meaning to study it as an issue of power. Paradoxically, even though economic growth has become a common topic in politics, it is never fundamentally discussed as something political. One may wonder how economic growth happens and how to make it happen, but rarely do people question whether it *should* happen. Growth evades the political arena because its pursuit has become common sense, a "natural, inevitable, and timeless" state of affairs hardly worth questioning (Schmelzer, 2016: 351). Economic growth has been naturalised or de-politicised: it is now so instilled in the prevailing collective imaginary that its power and influence seem to pass unnoticed (Urhammer, 2016: 4). When it comes to GDP, to grow or not to grow is never the question as an expanding market is considered inherently good for society and the planet.

A prerequisite for politicisation is to make the ideology of growth visible, which means defamiliarising certain practices and ideas that have come to be considered "natural." One way to do so is to show that changes in GDP conceal not only a material process but also an ideology that was socially constructed in the second half of the 20th century. Politicising growth means acknowledging that the expansion of the sphere of monetary activity is not an inevitable feature of some advanced social natural order but is instead a societal choice that benefits some and

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Postwar Japan. The term has also been used sporadically by Blewit and Cunningham (2014), Daly (2015, 2016, 2019), Sekulova et al. (2017: 174), and Kallis (2015).

[1] "Let 'growth regime' […] be any formation that is *in principle* geared to rationalizing and accelerating certain kinds of economic process and maximizing certain types of output, regardless of whether there actually *is* such growth or not. […] Just as 'growth society' doesn't refer to a society in which the economy is growing, but one that is, in its material, institutional and mental infrastructures, *geared to* generating permanent growth, 'growth regime' denotes the specific way in which these infrastructures are *arranged* to allow for a specific mode of growth" (Eversberg, 2018: 104, italics in original).

[2] For the sociologist Marcel Mauss, a *total social fact* is a practice that mobilises all human dimensions (legal, economic, political, spiritual, etc.) and engages everyone to some extent. I am adding "ecological" as a qualifier to acknowledge the fundamental embeddedness of society within nature.

harms others. The evidence brought forth in this part challenges the story of economic growth as a win-win-win (economy, society, environment).

Values are everywhere,[1] including in theories of growth. It is worth stating up front, if it is not already obvious, that the objective of this part is not to provide a balanced and exhaustive review of the growth literature. Instead, I look at economic growth from a critical standpoint. This differs from the usual economic study in the sense that I do not consider growth as something desirable per se (*normative*) and mobilise a wider range of concepts and theories (*analytical*). If one holds economic growth as a driver of unsustainability (as I do), it is essential to understand its logic in order to create alternatives to escape it. The literature on which I draw is therefore selective with a clear intention to bolster the growth-critical side of the controversy. This has several implications.

First, my objective is not to craft just another economic theory of growth in the style of Domar (1946), Solow (1956), or Romer (1990). Instead, I try to bring elements from diverse academic fields inside and outside of economics to elaborate a coherent depiction of the relation between a growing economy and society and nature. This synthesis is necessarily interdisciplinary.

Second, I focus solely on the costs of economic growth – and not its benefits – positing that it is on the former that the burden of proof lies. As Mishan (1967: xxi) clearly stated already half a century ago: "since there is no danger of the alleged benefits of economic growth being understated by the scientists and technocrats who today have the public ear […] one may safely assume that the glowing tints in the pictures have not been toned down." This was still true a decade after Mishan[2] and is still true today as I will show in Chapter 7.

One final observation. By choosing *growthism*, and not capitalism, neoliberalism, productivism, or development, I want to demonstrate that it is more encompassing than all of these four notions. Productivism is broader than capitalism[3] because the pursuit of an ever-increasing production can be achieved either via markets or planning and thus productivism can also occur in non-capitalist systems, as most famously evidenced by the case of the Soviet Union. Likewise, neoliberalism and its nemesis, Keynesianism, are equally productivist. But productivism only focuses on the supply side of the issue and leaves out the demand, namely consumerism. Moreover, production is not as strongly anchored in the collective imaginary as economic growth. This is evident from the fact that one rarely encounters headlines using the words "production" whereas those about "growth" abound. I focus on growthism and not only development because it is "economic growth," at least in the global North, that is at the centre of political attention. I would go further and say that all the problematic features of the

[1] Writing this, I am thinking of Swedish economist Gunnar Myrdal (1898-1987): "valuations are always with us [...]. Disinterested research there has never been and can never be. Prior to answers there must be questions. There can be no view except from a viewpoint. In the questions raised and the viewpoint chosen, valuations are implied" (Myrdal, 1978: 778-79).

[2] This quotation from American economist James Tobin (1981 cited in Samuelson and Nordhaus, 1989: 75) comes to mind: "The whole purpose of the economy is the production of goods and services for consumption now or in the future. I think the burden of proof should always be on those who would produce less, rather than more, on those would leave idle men [sic] or machines or land that could be used."

[3] Marxian scholars like Harvey (2015) would perhaps note here that it is not about capitalism but about the logic of capital and I would agree with them. My conceptualisation of growthism is similar to Harvey's and others' definition of capital as a "total social form" (the term is from Jappe, 2011: 142, mt) influencing all dimensions of individual and collective life. I prefer to start with *growth* and not *capital* because of how present the term is in private and public discourse. Besides, there might be analytical benefits in attempting a fresh conceptualisation of accumulation, building on Marxian insights but without being limited by them.

development discourse have been integrated into growthism, to the point where a critique of growthism inevitably includes one of development.

The part is divided into four chapters. The first chapter explores the real and imaginary existence of economic growth. Only when the notion of growth is transparent and its logic demystified can we start asking questions about both its possibility and necessity. On that matter, my inquiry is guided by three questions. Chapter 2 assesses the availability of the biophysical means of growth and the sustainability of their use ("Is further growth biophysically *viable*?"). Chapter 3 discusses the secular stagnation and social reproduction literature as to assess the plausibility of further growth by looking at the socioeconomic factors limiting its continuation ("Is further growth socioeconomically *plausible*?"). Lastly, Chapter 4 challenges the social-political necessity of perpetual expansion by showing that growth is no longer correlated with employment, equality, and well-being ("Is further growth socially *desirable*?").

Economic growth is *unviable* when it generates unbearable environmental pressures, *implausible* when the socioeconomic factors of production required for it are unavailable, and *undesirable* when it fails to achieve the objectives it promises. Exploring these three objections to economic growth is the purpose of Part I.

Chapter 1

Understanding economic growth

THE term "economic growth" is omnipresent and its evocation can have several meanings as there exists a diversity of definitions, interpretations, and associations attached to the term. But few are those who know what economic growth is, let alone understand its dynamics. The main goal of this opening section is to gain a better understanding of economic growth by answering a series of questions: What is it exactly that grows? By how much does it grow? When and where does it grow? How does it grow? And why should it grow? The *what* enquires into the nature of the economy. The *how much* tells the story of how it came to be measured with the emergence of national accounting. The *when* and *where* retrace the history and geography of economic growth. The *how* explains which sources and drivers cause it to happen. And the *why* investigates the cultural imaginary associated to it.

What is it that grows? The invention of the economy

In order to give a satisfying definition of economic growth, one must first define what the economy is. Of course, the existence of what is now called "the economy" largely precedes its abstract definition – as evidenced by the countless societies that throughout history managed to provide for their needs and ensure their social reproduction without a precise concept to frame such activities. Note also that there is no contradiction in saying that the economy is an invention and saying that it has a real biophysical existence (as I will argue in Chapter 2). The socially constructed part of the economy (that which has been *invented*) takes the form of meanings and social relations that are ascribed to biophysical processes (which have not been invented).

What has changed with the invention of the economy is not the acts of harvesting, manufacturing, trading, investing, etc. but the social conditions in which those activities took place. More importantly, the economy changed qualitatively, from being understood as economising practices (in the sense of thriftiness, making prudent use of limited resources) to a distinct social sphere, which is today commonly understood as *the economy*.

The social construction of this economy happened in two successive phases (Hirschman, 2016). The first movement occurred in the middle of the 18th century with the

work of François Quesnay (1759), Adam Smith (1776), and David Ricardo (1817). It is at this time that the economic was separated from politics, culture, art, religion, and nature (Schabas, 2005). For the first time, the economy became an object of study of its own.

The second movement is more recent. It only appeared in the 1930s-1940s with the emergence of macroeconomic theory about the economy (Keynes' general theory), national accounting of the economy (Kuznets' statistics), and State intervention into it (the New Deal in the United States and economic planning during wartime). It is at that time that the economy became "a precisely defined 'sociotechnical object' bounded and made visible through novel measurement practices" (Hirschman, 2016: 31). Instead of only one of the various aspects of governing, the economy became a "self-contained structure or totality of relations of production, distribution, and consumption of goods and services within a given geographical space" (Mitchell, 2011: 125).

The invention of the economy as a distinct sphere from society and nature paved the way for a worldview that has become prevalent today: *economism*.[1] Economism (also known as economicism, economic determinism, or economic reductionism) is the belief that the economy is an autonomous entity from both society and nature. In essence, it presupposes that the economy not only has an existence of its own, but also possesses its own will.

The economy, like any institution, affects the values of its users, and economism is a situation where the economy has the monopoly over all other institutions such as family, religion, education, or politics. It is economic rationality crowned as commonsense with the economy functioning according to its own laws (Polanyi, 1944: 57).[2] Society becomes a "social factory" (Tronti, 1966) where every social relation is subsumed under economic rationality. It means that the economy is given a "fixed space," "a quasi-naturalistic, semi-autonomous reality, composed of laws, tendencies or processes that we must at least respect when we attempt to guide our societies" (Mitchell, 1998: 84). In a nutshell, economism is the primacy of the economic over everything else.

Economism translates all social and ecological questions into economic problems.[3] It is "the confusion of one minor department of life with the whole of life" (Tawney, 1920: 45). Like a giant, fussy stomach, the economy can either digest or reject a political decision.[4] It has become so important in social life that stock market indexes rival the weather forecast in the bottom lines one sees at all time during television news (Bjerg, 2014: 31).

Swyngedouw (2014: 91) describes economism as the de-politicisation of economy (i.e. the fact that economic matters cannot be disputed within the existing registers of politics) and the economisation of politics (i.e. the fact that every domain of public concern is subject to

[1] It should be noted that these terms are used in two different contexts, one epistemological and the other ontological. Epistemologically, they are used to describe certain Marxist theories which hold that the economy is the main – or sole – source of social change. But they are also used ontologically in the growth-critical literature – and it is in this sense that I will be using the term – to denote a worldview that places the economy as an autonomous, self-sufficient entity detached from society and the environment.

[2] "Instead of economy being embedded in social relations, social relations are embedded in the economic system […]. For once the economic system is organised in separate institutions, based on specific motives and conferring a special status, society must be shaped in such a manner as to allow that system to function according to its own laws" (Polanyi, 1944: 57).

[3] Dixon et al. (2002) exemplifies this mindset when concluding that "HIV/AIDS reduces labour supply and productivity, reduces exports, and increases imports" and that "the pandemic has already reduced average national economic growth rates by 2-4% a year across Africa."

[4] The market always knows best: "It Took the Market 30 Minutes to Digest Trump Jr. Email Drama" (Bloomberg, 2017), "EU economy Unable to Digest Turkey's Accession to Bloc" (Sputnik, 2017), "European stocks digest Fed minutes" (Investing.com, 2017).

market rule and economic calculus). It is a deferral of responsibility for injustice to an abstract, semi-natural entity (the economy), which is, in fact, a socially-constructed system whose function benefits certain groups over others. From an economicist worldview, economics becomes the "grammar" (Laurent, 2016: 9, mt)[1] or "mother tongue" (Raworth, 2017: 6) of politics, economics as an "imperial domain" (Sandel, 2012: 6); and the economy, although it has been – and constantly is – made by society, ends up being treated as independent from it.

The counterpoint to economism affirms that the economy has no objective existence. It is a "vague concept, mostly fictitious, [whose] borders are an arbitrary abstraction at best" (Fioramonti, 2017: 25). More precisely, it is an abstract idea that does not exist regardless of description and measurement. "The 'economy' and the 'economic' are social imaginary significations that do not 'reflect' anything real, but from which certain things are socially represented, thought of, and acted upon as being economic" (Castoriadis, 1975: 484). As Callon (1998a, 1998b) argued, economic life (*economy*) is embedded in economic knowledge (*economics*), which means that social representations of the economy equip individuals and organisations with a specific cognitive apparatus[2] that affect their behaviour. The economy, in other words "only exists when it presupposes itself" (Latouche, 2018: 283).

When it comes to description, a social practice is made *economic* by the conceptual glasses used to observe it. If I describe a marriage in terms of partial tax exemption, shared rent, and reduced expenditures, I would make marriage an economic act.[3] Alternatively, I could look at a marriage as two people celebrating their love for each other independently of any economic concerns, which would then make the act of getting married non-economic. My point is that what differentiates the economic from the non-economic is the story that is being told about the event, this story being framed by the tools one selects to describe it. For example, the "culture economy," "wellness economy," "health economy," "nursing economy," or the "knowledge economy" do not reflect activities that are economic in nature but only shows that they are being examined from an economic perspective.

Two conclusions can be drawn from such an assumption. First, the economy is not a pre-existing and stable reality waiting to be described and measured. Instead, the economy is "invented" (Latouche, 2005) as a story told with the vocabulary that is available. If that is so, it means that there is no fundamental economic substance, but that instead, everything about the economy (all the norms, rules, and interactions) is a social construction. Latouche (2005: 13, italics added, mt) says it best: "if there is such a thing as an economic history, it is because the economy is above all else *a story*."

And second, measuring tools such as national income accounting are not mere technical devices devoid of values (Schmelzer, 2015: 265). What we think exist depends on the proxies we chose to simplify a complex reality, a choice that is itself influenced by our own values. It follows that indicators are far from being neutral; at the centre of the ideational battlefield, they

[1] I indicate what has been personally translated by adding the acronym "mt" ("my translation") to the reference.
[2] Hirschman and Berman (2014: 781 cited in Hirschman, 2016: 11, italics in original) speak of a "cognitive infrastructure," to refer to "economic *styles of reasoning* prevalent among policy making elites, as well as the establishment of economic *policy devices* that produce knowledge and help make decisions."
[3] This is the approach of American economist Gary Becker (1930-2014) and its modern followers (Landsburg, 2012; Levitt and Dubner, 2009, 2011; Becker and Posner, 2009; Wheelan and Malkiel, 2010; Harford, 2007, 2010, 2013) who deduce from this fact that thinking like an economist can explain merely everything.

are weapons of political struggle whereby the ones who can impose their choice of indicators get to impose their ontology onto others.

Although interpreting reality unavoidably requires a selection of indicators, these should not, however, be misunderstood as reality itself. What Gross Domestic Product (GDP) measures is not the economy but an idea of what the economy is. Put another way, *that which grows* is intimately connected to, but fundamentally different from, *how much it grows*.

The economy is a matter of belief. Before the first "economists" in 18th century France, society providing for its needs and ensuring its social reproduction was just called *life*. Starting with the works of Quesnay, Smith, and Ricardo, the economy started to be considered a distinct sphere of society. One had to wait until the 1930s-1940s for that sphere to be measured in one single number, and it was at that time that the economy as we know it today was born. Even though acts of provision did not fundamentally change, the perception of these activities did; from a vision of economy embedded in society and nature to one of an economy as an autonomous entity with an objective existence. In opposition to this economicist view, I argued that the economy was – and still is – socially constructed.

How much and how fast does it grow? The story of Gross Domestic Product

For an economy to grow, it first had to exist. In the previous part, I argued, following Hirschman (2016), that it is macroeconomic theory, State intervention, and national accounting practices (the second movement) that led to the formation of the idea of an economy in the form we know it today. The most important of these practices was the invention and further development of the idea of Gross Domestic Product (GDP).

Following the *System of National Accounts* guidelines set by the United Nations (last update in 2008),[1] GDP is defined as "an aggregate measure of production equal to the sum of the gross value added of all resident institutional units engaged in production" (SNA, 2008: ch.1, D.1.49, p.8).[2] When opening an economics textbook, the definition of GDP is usually more pedagogical: for example, "a measure of the total market value of final goods and services newly produced within a country's borders over a period of time, usually one year" (Goodwin et al., 2014: 108). There are three equivalent ways to calculate GDP: (1) *expenditure* measure, (2) *income* measure, and (3) *production* measure.

(1) By sum of all purchases of final goods and services made by consumers, businesses, the government, and then adjusted for trade flows
GDP = sum of expenditure on final consumption + gross capital formation + exports – imports
(2) By sum of all monetary compensations earned in production as either wages, profits, rent, interest, and dividends

[1] The conventions on how to calculate GDP were only revised three times since their creation in 1953 (1968, 1993, 2008).
[2] In the System of National Accounts (SNA, 2008: Ch. 1, D.1.39, p.6), production is defined as "a physical process, carried out under the responsibility, control and management of an institutional unit, in which labour and assets are used to transform inputs of goods and services into outputs of other goods and services."

GDP = compensation of employees + gross operating surplus + gross mixed incomes + taxes – subsidies on both production and imports

(3) By sum of the value added by each producer

GDP = value of output – intermediate consumption + taxes – subsidies on products not already included in the value of output

The basic idea behind this indicator is that regardless of its method of measurement, GDP should always reflect the same thing: the total level of economic activity – within a specific production boundary – defined as a flow of money changing hands. Although we will see later in this chapter that the two are linked, a first distinction to make when speaking about economic growth is between *physical* or *material* growth in, for example, population, energy and material use, and *economic* growth as an increase in monetary value.

The three words in *Gross Domestic Product* are not chosen at random. The domestic product is *gross* when it does not account for the depreciation of capital (the ageing, wear and tear, accidental damage, obsolescence of infrastructure and machines). The Net Domestic Product (NDP) would then be "an estimate of how much of a country's output is de facto available for real consumption, which means how many goods and services are actually provided to consumers" (Fioramonti, 2013: 8). The reason economists have relied more heavily on GDP than NDP is that it is simpler, and thus quicker, to calculate (Stiglitz et al., 2010: 28; Fioramonti, 2013: 8). Usually, NDP is approximately equal to 90% of GDP (Piketty, 2013).

Gross *Domestic* Product (GDP) tracks activities based on residence (i.e. what takes place within the geographical boundaries of a country) while Gross *National* Product (GNP) tracks activities based on citizenship (i.e. what takes place between citizens of a nation regardless of where these activities occur).

When GDP is calculated with all incomes generated in production, it is referred to as Gross Domestic *Income* (GDI). While the two measures are conceptually equal, they can slightly vary in practice as they are constructed on different sources of information (see Grimm, 2007 for more details).

If GDP is a total monetary value, then GDP growth is an increase of that value over a period of time, usually a year. And in reverse, a shrinkage of GDP is a contraction of the economy in the sense of a decrease in the volume of monetary transactions from one time period to another. This is considered a *recession* if it lasts for more than six months and a *depression* if it lasts for more than a couple of years.[1]

Calculating GDP is an intricate procedure involving a number of subtleties. The first difficulty lies in measuring activities that are not traded in the market sphere. A solution is to include an approximation of the price (then called "imputed value" or "imputations") that would be obtained for a commodity should it be exchanged on the market. Yet, those imputations currently include only a few activities such as housing services enjoyed by homeowners, financial services provided by banks, employee benefits such as medical insurance, meals, and accommodation, as well as certain government services.

The second difficulty has to do with accounting for the real quantity of the goods and services traded by removing the effect of changes in prices – going from *nominal* to *real* GDP by adjusting for inflation or deflation. In a period of high inflation or deflation, there will be a

[1] One should note that the definition of what constitute a recession or a depression varies between countries and organisations.

widening of the difference between real and nominal GDP, while in periods of constant price levels, real GDP will be equal to its nominal counterpart.

This difficulty adds up to a more fundamental one, which is the measure of the evolution in the quality of goods and services. GDP does not account for the qualitative features of a given good or service (e.g. performance or durability). If the relative price (i.e. adjusted for inflation) of a computer was the same in the 1990s as it is in the 2010s, then the production of one computer will be accounted in the exact same manner, even though the most recent computer may significantly outperform the older one. What may seem like a subtlety becomes highly problematic when measuring entire sectors whose performance is fundamentally qualitative. Consider, a private and costlier education system such as the American one would represent a larger share of GDP per capita than a comparatively less expensive one like in Finland, even though all evidence points to the fact that Finns largely outperforms American in terms of education (WEF, 2017).

Lastly, population growth has to be excluded from GDP. As noted by Piketty (2013: 126), the decomposition of growth into a demographic and a production per capita measure is often forgotten in public debate. This is simply done by adjusting the national number into a GDP per capita (i.e. income) as to only reflect the increase of production/consumption and not demographic changes. A growing GDP implies a rising income only if the economy grows faster than the population does.

In the rest of the thesis, and unless specified otherwise, I refer to *real* GDP when writing about economic growth, and I always specify if it is *per capita* or not.

A brief history of GDP

Although the history of GDP may seem trivial, it is in fact crucial to understanding the modern obsession with economic growth.[1] The GDP index is a recent invention that emerged out of the Great Depression of the 1930s and was legitimised in the World War that followed (Fioramonti, 2013: 9).[2] Recovering from the crisis, the government of the United States (hereafter US) needed coherent statistics in order to get a comprehensive overview of the current state of the economy as well as to regularly assess the impact of its policies. This led the American government to hire Russian-American economist Simon Kuznets as well as two younger economists (Milton Gilbert and Robert Nathan) in 1932 to prepare the first set of national accounts, a report which was delivered to the US senate two years later.[3]

[1] For more on the history of GDP, see Fioramonti (2013), Coyle (2014), Philipsen (2015), Schmelzer (2016), Masood (2016), and Hirschman (2016).

[2] Fioramonti (2013) asserts that the historical roots of GDP stretch as far back as the 17th century when the British political economist William Petty conducted the first ever survey of national wealth by systematically analysing the value of the land conquered by Oliver Cromwell in Ireland. Petty was soon followed by Gregory King's *Natural and Political Observations and Conclusions upon the State and Condition of England* (1696) which was the first estimate of the national income of England. In France, Boisguilbert's *Le détail de la France; la cause de la diminution de ses biens et la facilité du remède* (1695) described, for the first time, the economy in terms of monetary flows to calculate national income. As to why this early attempt in "political arithmetick" did not cause a broader shift in calculability, Hirschman (2016: 62-68) argues that it was because the production, collection, and analysis of economic data was limited. Only with the rise of the large corporation, the prevalence of wage labour, the expansion of administrative capacity, and the collection of income taxes would such data become accessible to the point of leading to the shift of the 1930s-1940s.

[3] Philipsen (2015: 103) describes how widespread the release of that report was (*National Income, 1929-1932*). "This is why Kuznets's final report seized national headlines when released on January 23, 1934. The attention-grabbing title 'Our Income Fell 40% in Four Years' in the *New York Times* introduced the report as 'the most complete and detailed ever compiled.' All major newspapers ran similar stories. Soon thereafter, the new Secretary of Commerce, Daniel Roper, used Kuznets's numbers

Kuznets's idea was simple: aggregating economic production into a single number that would rise during good times and fall during bad ones – a "thermometer of success" (Fioramonti, 2017: 48). With the outbreak of the Second World War, the policy focus shifted from general economic welfare to the specific objective of providing industrial support for the war. For Fioramonti (2013: 9), it was this need for top-down command over economic production that sealed the close relationship between GDP and politics. Collins (2000: 10) goes as far as calling World War II a "gross national product war" with each side trying to out-produce the other.

In 1953, the United Nations legitimised the indicator by publishing the first *Standards of National Accounting* (SNA), largely influenced by Kuznets's methodology and the US Department of Commerce (Fioramonti, 2013: 32; Philipsen, 2015: 112). These statistical conventions would remain essentially the same until today, albeit with several technical alterations (in 1960, 1964, 1968, 1993, and 2008).

The history continued during the Cold War where both the United States and the Soviet Union used their respective indicators of economic progress (GNP on the Western side and Net Material Product and Gross Social Product[1] on the Eastern side) as propaganda tools in a "stats war" that ended in 1988 with the Soviet Union abandoning its methodology in favour of the GNP (Fioramonti, 2013: 33). The economic aspect of the conflict was even more apparent than during World War II, socialism and capitalism each striving to outgrow one another – Schmelzer (2016: ch.3) recalls the slogan "expand or die."[2] After the collapse of the Soviet Union in 1991, all former Soviet Republics adopted Western accounting conventions making GNP a hegemonic indicator of economic progress.[3]

It was also the same year that the gross *national* product became *domestic*. Whereas GNP refers to all goods and services produced by the citizens of a given country (e.g. the production of all Coca-Cola factories in the world are integrated into American GNP), the GDP is territorially defined (e.g. the production of a Coca-Cola factory in India is attributed to Indian GDP). This change did not occur randomly. Czech (2013: 26) argues that the administration of George H. W. Bush had an interest in doing so because the foreign firms implanted in the US were growing faster than American firms outside of the US, a switch from GNP to GDP therefore allowing the US government to claim a higher rate of growth. Fioramonti (2013: 41), on the other hand, points to how GDP was used to legitimate unfair trade practices with the global South by giving the illusion that disadvantaged countries were growing while in reality most of their profits and resources were repatriated to the North.

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in a major policy speech supporting the urgent need for New Deal programmes. Even among private agencies, businesses, and the public, interest in the report appeared exceptional: within eight months of its printing, almost 4,500 copies were sold at $0.20 a copy. No other government report on the economy had ever sold as many."

[1] The Soviet Net Material Product divides economic activities into two types: material production of tangible goods which creates national income and non-material services, which are not considered to constitute primary income (for more see Schmelzer, 2016: 96 and Fioramonti, 2013: 34).

[2] In *The Soviet Economy Outpaces the West* (1953), the English economist P.D. Wiles writes: "In a long cold war, the rate of growth is the most important thing, for in the end the country that grows most becomes biggest, and every economic advantage belongs to it, be it military power, dominance in world markets or even a higher standard of living. […] We must raise our production, and keep the gap between them and us as great as it is now. Otherwise, time is on their side" (Wiles, 1953: 48 cited in Sutter, 2010: 8).

[3] "the ultimate yardstick" (Bregman, 2017: 113), "the gold standard of economic governance" (Schmelzer, 2016), "an economic version of 'magnetic North' " (Philipsen, 2015: 88), "the most powerful number in the world" (Fioramonti, 2013).

The consequences of GDP

The history of GDP teaches us that it is far from being a value-neutral indicator. GDP is an institution in its own right and is the outcome of historically specific choices influenced by specific worldviews and shaped by specific power struggles (Schmelzer, 2016). More precisely, indicators emerge from both the worldview held by their inventors and a broader technical (what *can* be measured) and political (what *should* be measured) context. Kuznets (1941: 5) himself noted: "For those not intimately acquainted with this type of work it is difficult to realize the degree to which estimates of national income have been and must be affected by implicit and explicit value judgments." The fact that Kuznets originally decided to exclude profits originating from illegal activities such as prostitution and drug trafficking as well as defence spending[1] is a classic example of how moral values pervade any economic metric (Fioramonti, 2013: 95).[2]

The methodological choices made by the statisticians who designed GDP – or all other national accounting indicators for that matter – have consequences for the wider society that is using the indicators because those "frame the way we view things, which aspects we pay most attention to and which rationales are reproduced" (Göpel, 2016: 130). Not only is GDP value-laden, but it also reproduces the values that helped construct it by depicting a certain reality as factual. Decisions about the so-called "production boundary," that is the demarcation line between activities included in GDP (thus considered "productive") and others excluded from it are not technical but deeply political.

Embracing the "GDP ideology" (Fioramonti, 2017) changed the story of economy in several ways. First, the economy became something that could be properly managed. Before the 1930s, economists would mostly try to identify endogenous periodical fluctuations such as Juglar cycles[3] and Kondratiev waves[4] and would then advise on how to promote expansion during the boom and how to mediate the inevitable bust that would follow. "Growth" was then only a means to an end, to put back idle factories to use or create employment for the jobless. The theoretical work of British economist J.M. Keynes[5] (1883-1946) coupled with the statistical methods of Kuznets rendered the economy manageable by the State and made economic growth an object of policy as such (Fioramonti, 2013: 28).[6] Mitchell (2014) calls this new mode of governance "econmentality." Historian Hermann van der Wee (cited in Schmelzer, 2016: 159) notes that it is around that time that the concept "crisis" was replaced

[1] Coyle (2014) reports that the US government insisted to have public expenditures included in GDP as to not have the war effort perceived as a sacrifice by consumers.

[2] In 2013, more than 80 years after Kuznets' first set of GNP account, Eurostat recommended to include income from sex work and illicit drugs as part of GDP on the ground that these were consensual economic transactions.

[3] In *Des crises commerciales et de leur retour périodique* (1862), Clément Juglar (1819-1905) identified a periodic sequence in business cycle: prosperity (5-7 years), panic or crises (a few months to a few years) and liquidation or depression lasting a few years (Morgan, 1990: 43).

[4] The idea that there were Kondratiev "cycles" or "waves" in economic activity was widely used in the 1930s. The concept comes from Soviet economist Nikolai Kondratiev (1892-1938) who proposed in *The Major Economic Cycles* (1925) the theory that economies constantly go through three phases of expansion, stagnation, and recession, the three of them lasting together about 50 years.

[5] Keynes himself did not consider economic growth to be a goal in itself but only a remedy against depression. Running unchecked, growth could even become a potentially destabilising force in a steady state economy like the one he describes in *Economic Possibilities for Our Grandchildren* (1930).

[6] Philipsen (2015: 140) warns against downplaying the role of precise data: "without the people who provided the detailed statistics on output and income, broken down by sectors of the economy and made comparable through conceptual standardization, Keynes' insights would have been another interesting set of ideas without much practical impact – sketches of a house without construction plans."

by the term "recession," and the "business cycle" was transformed into a "growth cycle" with the economy expanding more or less rapidly. This change of worldview was particularly potent during and after the Great Depression and was a major element giving rise to the New Deal in the US and comparable extensions of government intervention around the globe. A side effect of that change was the "superiority of economists" (Fourcade et al., 2015), a disproportionate power given to economists in politics compared to their colleagues across the social sciences.

Second, GDP made possible the *economisation* of social life whereby society is reduced to an economy. Parents, children, citizens, artists, intellectuals, workers, farmers, entrepreneurs, soldiers and any other social categories were all conflated into two categories: producers and consumers (Fioramonti, 2013: 48).[1] In the same way, GDP paved the way of the commoditisation of resources and relations that had so far only existed outside of the market domain. An example is what Schmelzer (2016: ch.5) describes as the "human capital revolution" where issues such as education, research, and culture started to be seen as potential factors of production that could be used for the sake of boosting growth. Yet, the role that the GDP metric played should not be overestimated, and I will soon argue that the roots of these economisation tendencies run deeper. But whether it was planned or not, GDP did become the "metronome of modern life" (Schmelzer, 2016: 86) and started to influence not only economic but also political and cultural behaviour.

Third, even though its original purpose was not to measure society's well-being (as clearly stated by Kuznets himself[2]), GDP came to be used as a measure of a country's overall welfare. The use of GDP blurred Pigou's (1920) distinction between "social welfare" and "economic welfare" by assuming that the two would always converge. In what Mishan (1967: 8) describes as a "mass flight from reality into statistics," the chief source of social welfare soon came to be found in increases in the quantity of things being produced and consumed in the economy. As stated by President Franklin D. Roosevelt in a 1938 speech: "All the energies of Government and business must be directed to increasing the national income" (cited in Philipsen, 2015: 107).

And finally, national income statistics and macroeconomics opened up the possibility for the idea of limitless economic growth. National income statistics gave the economy a size that could change in time. An increase of such size came to be considered as desirable through its association with general welfare. And macroeconomic theory, starting with Keynes, conceptualised the monetary economy as detached from the environment, which legitimated the now prevailing idea that an economy can grow without getting biophysically bigger (Mitchell, 2011: 139).

Gross Domestic Product is definitely "one of the great inventions of the 20th Century," to use the title of Landefeld's (2000) article, or even "*The* great invention" (Masood, 2016,

[1] Fioramonti (2017: 97) talks of a "GDP man" who "only exists in so far as he works and spends. He dislikes pure leisure, unless it is priced and commercialized. For the GDP man, time spent in the family or in the local community is wasted because it does not count for development and growth. The GDP man buys new stuff and throws it away once it breaks: fixing goods for long duration is indeed of no value in this dominant framework because GDP only counts the price of goods and services at the moment of purchase […]."

[2] Already in 1934, Kuznets warned the US Congress that "the welfare of a nation can scarcely be inferred from a measurement of national income. If the GDP is up, why is America down? Distinctions must be kept in mind between quantity and quality of growth, between costs and returns, and between the short and long run. Goals for more growth should specify more growth of what and for what." Milton Gilbert (1945: 5) also writes: "I can only repeat that we are not trying to measure welfare, but the value of production from a business point of view."

italics added). Without it, there would hardly be such thing as an economy, and even less the idea that it could expand or shrink. And yet, not everything about GDP is great.

Critiques of GDP and alternatives

GDP accounting has always been disputed, not as much for its design, but rather for the way it was used. Starting with Moses Abramovitz in 1959,[1] a number of scholars and politicians[2] have argued that although there was nothing intrinsically wrong about this way to measure market activities, GDP was used inappropriately. I summarise those criticisms in six main categories.[3]

(1) According to the *welfare critique*, the indicator fails to distinguish between desirable and undesirable economic activities (Cobb et al., 1995). In the calculation of GDP, there are no costs but only benefits, so the monetary flows associated with welfare-reducing activities (clean-up costs of an oil spill, rehab centres, or divorce attorneys) are treated in the same manner than the ones associated with welfare-enhancing ones (e.g. building of a public library, malaria treatments, hiring additional teachers).[4] It also cannot differentiate between value creation and value extraction through rent-seeking (Mazzucato, 2018). This "gross national hotchpotch" (Illich, 1992: 100) renders the social costs of economic growth invisible (Méda, 2013: 99): it is a "statistical laundromat" that washes away negative externalities (Fioramonti, 2017: 210) and only provides information about "how fast the wheels are running, [but] not where the car is going" (Daly and Farley, 2004: 268). In a nutshell: "not everything that can be counted counts, and not everything that counts can be counted" (Cameron, 1963: 13). (One should note here that the System of National Accounts has a full section warning against using GDP as a measure of welfare.)[5]

(2) The *feminist critique* argues, following Waring (1988), that the indicator cannot account for non-monetary activities such as childrearing, housekeeping, self-production, community support, or volunteer work because it only tracks activities where money changes hands. Although it runs counter to common sense, the GDP logic would find it more desirable to send kids and their grandparents to care institutions than to have the latter taking care of the

[1] "we must be highly sceptical of the view that long-term changes in the rate of growth of welfare can be gauged even roughly from changes in the rate of growth of output" (Abramovitz, 1959: 21 cited in Philipsen, 2015: 178).

[2] During one of his presidential campaign speech in Kansas on 18 March 1968, Robert F. Kennedy pointed out the limits of GDP as a measure of prosperity that would count the bads (air pollution, cigarette advertising, ambulances, jails' locks, deforestation, napalm and nuclear warheads) and ignore the goods (health, quality of education, joy, intelligence, integrity, wit, courage, wisdom, and compassion). More recently, David Cameron spoke the following words at a Google conference in Hertfordshire in 2006: "It's time we admitted that there's more to life than money and it's time we focused not just on GDP but on GWB – general well-being."

[3] This classification is one among many. For instance, Philipsen (2015: 156-57) distinguishes seven criticisms (*quality-blind*, *people-blind*, *justice-blind*, *ecosystem-blind*, *complexity-blind*, *accountability-blind*, and *purpose-blind*).

[4] "Imagine a pill-dependent smoker who, on the way to his divorce lawyer, crashes his oversized car into a school bus because he is texting about an impending derivatives trade. Then suppose he survives, pays his many legal and medical bills, and continues to consume expensive gas, harmful cigarettes, and addictive pharmaceuticals. Contrary to common sense, he fits the profile of a modern economic hero – someone who purchases a lot of goods and requires a lot of services" (Philipsen ,2015: 2). "The basic assumption underlying GDP measures is that market prices are the appropriate basis for weighting the value of different goods and services. But does society really place the same value on a $50,000 SUV as it does on $50,000 worth of school lunches for undernourished inner city children?" (Szostak, 2009: 25). "If you were the GDP, your ideal citizen would be a compulsive gambler with cancer who's going through a drawn-out divorce that he copes with by popping fistful of Prozac and going berserk on Black Friday" (Bregman, 2017: 105-106). "The word suggests healthy green things blooming in the sunshine, and moms marking kids' changing heights on the kitchen wall – even though bullets and bombs, rather than begonias and baby food, can be the real drivers of GDP" (Sutter, 2010: 58).

[5] "GDP is often taken as a measure of welfare, but the SNA makes no claim that this is so" (SNA, 2008: ch.1, Section H, p.12); "it is unrealistic to expect a system of economic accounts to necessarily and automatically yield a wholly satisfactory measure of welfare" (ibid. p.13).

former. The result is that all activities that are unpaid, including the care work that is predominantly performed by women, are considered outside of the production boundary and methodologically left aside.[1,2] As such, GDP carries a sexist bias in depicting only (traditionally) men's labour as being a source of economic wealth. Waring (1988) goes further in her critique of the UN System of National Accounts accusing it of legitimating militarism, ecological exploitation, and colonialism under the disguise of a neutral indicator.

(3) The *ecology critique* attacks GDP because it omits the environment by not subtracting any of the damages forced on ecosystems while treating unpriced and unowned natural resources as having no value (Lawn and Clarke, 2010).[3] "A country could exhaust its mineral resources, cut down its forests, erode its soil, pollute its aquifers, and hunt its wildlife and fisheries to extinction, but measured income would not be affected as these assets disappeared" (Repetto et al., 1989: 2-3 cited in Ekins, 2000: 126). In fact, if these actions increase economic output (e.g. millennial forest being turned into paper, wild bees being substituted by hand pollination, eroded soil requiring added fertilisers), they would be considered as "productive" in the eyes of GDP.

(4) Because GDP only measures monetary flows and not changes in stocks, the ecology critique equally applies to any stock and can therefore be extended into a broader *capital critique*: GDP fails to account for the evolution (loss or gain) of manufactured, social, and human capital. The value of a university building, a university logo, or a university diploma are counted only once at the moment they are paid for, even though their value may change in the future (e.g. the loss of prestige of a university would not affect GDP in any way, nor would the wearing out of its overworked teachers). As de Jouvenel (1969: 267) remarked with humour, turning Notre Dame into an office building would be counted as extra wealth.

(5) The *justice critique* contends that GDP does not provide information on income and wealth distribution. The overall sum tracks the flow of money changing hands but does not detail the direction of that flow, or in other words, which hands are giving and which ones are receiving. In a situation where monetary exchanges would essentially occur within the top centile of the wealth distribution, the GDP per capita of a country could well rise while its poverty levels stay the same or even increase. Likewise, two countries can have the exact same

[1] Retracing the early history of debates over counting women's housework, Hirschman (2016: 138-57) shows that statisticians chose to exclude unpaid work only because they lacked an unequivocal market estimate of the amount of value it created. The last version of the System of National Accounts (SNA, 2008: Ch.1, H.1.78, p.12) justifies this choice: "The exclusion of these activities from the production boundary is not a denial of the welfare properties of the services but a recognition that their inclusion would detract from rather than add to the usefulness of the SNA for the primary purposes for which it is designed, that is economic analysis, decision-taking and policymaking."

[2] The issue whether care work and the likes should then be included into GDP is controversial. Some argue it should be either directly included or indirectly via a Household Satellite Account like it has been experimented in Canada, South Africa, and the UK. Other propose complementary indicators, for example Ironmonger (1996) with the "Gross Household Product" or Fobre (2001) with the "Dolly Jones Index." A third position argues that it should be left out as to prevent the commodification of activities that should remain outside of economic rationality (e.g. Cameron and Gibson-Graham, 2003).

[3] The System of National Accounts (SNA, 2008: Ch. 1, D.1.43, p.7) states: "For example, the natural growth of stocks of fish counted as production: the process is not managed by any institutional unit and the fish do not belong to any institutional unit. On the other hand, the growth of fish in fish farms is treated as a process of production in much the same way that rearing livestock is a process of production." But the SNA otherwise do include natural resources in the "assets" category if and only if "institutional units are exercising effective ownership rights over them, that is, are actually in a position to be able to benefit from them" (ibid. 1.46, p.7); "the depletion of a natural resource as a result of its use in production is recorded in the other changes in volume of assets account, together with losses of fixed assets due to their destruction by natural disasters" (ibid. 1.47, p.7).

growth rate over a given period even though one has managed to reduce economic inequality whereas the other did the opposite.

(6) Finally, the *post-development critique* blames GDP for ignoring different visions of prosperity and imposing a universal metric for progress designed specifically by – and for – the developed capitalist economies of Western Europe and North America. Indeed, GDP can measure – and thus compare – the economic productivity of any social group regardless of their traditions and aspirations.[1] Comparing GDP levels between industrialised and non-industrialised countries reinforces an ethnocentric, linear vision of development in the style of Rostow's (1960) stages where nations with a lower GDP are defined as "backward," "under-developed" – sometime even "undergrowthed"[2] –, or "least-developed" in relation to others.[3]

The growing recognition that GDP is an inadequate indicator of progress has led to a number of initiatives around the world to investigate alternatives. The first serious attempt at imagining a replacement to GDP was the *Measure of Economic Welfare*[4] (MEW) by William Nordhaus and James Tobin in 1972. It was followed by Herman Daly and John Cobb Jr.'s *Index of Sustainable Economic Welfare* (ISEW) in 1989, which was further developed in 1995 by Clifford Cobb, Ted Halstead, and Jonathan Rowe at the US think tank Redefining Progress into the *Genuine Progress Indicator*[5] (GPI), and which is today officially used in several places such as Maryland, Vermont, Hawaii as well as Alberta (Canada) and Finland. Through a series of conferences (Palermo, 2004: Istanbul, 2004: Busan, 2009), the OECD has coordinated a global search for new indicators of prosperity.

Other alternative indexes and initiatives include the *Gross National Happiness Index* (GNH) that was developed in Bhutan in the 1990s (for more see Hayden, 2015) and the *Human Development Index* (HDI) created in 1990, but also the Japanese *Net National Welfare* (1973), *Life Situation Index* (1974), the *Economic Aspects of Welfare* (1981), *Index of Social Health* (1987), *Sustainable National Income* (1995), *Genuine Savings* index of the World Bank (1997), *Living Planet Index* of WWF (1997), *Sustainable Net Benefit Index* (1999), *Produit Intérieur Doux* (Soft Domestic Product) in Québec (1999) and Canadian *Index of Well-Being* (2001), *sustainability gaps* (2001), *Green Net National Product* (2000), *BIP40* in France (2002), the

[1] The System of National Accounts (SNA) states: "The SNA is designed for economic analysis, decision-taking and peacemaking, whatever the industrial structure or *stage of economic development* reached by a country. The basic concepts and definitions of the SNA depend upon economic reasoning and principles which should be *universally valid* and invariant to the particular economic circumstances in which they are applied" (SNA, 2008: ch.1, A.1.4, p. 1, italics added). Post-development scholars would here criticise not only the "stages" approach to development but also the supposedly "universally valid" economic reasoning and principles.

[2] In his history of growth politics in the OECD, Schmelzer (2016: ch.5) reports a preliminary proposal for a questionnaire that included the question "How undergrowthed do you consider your economy?"

[3] The belief that societies naturally evolve through several stages existed before Rostow. It was four stages in Adam Smith's *Wealth of Nations* (age of hunters, of shepherds, of agriculture, and of commerce) or a spectrum for social evolutionists like Herbert Spencer (1820-1903) from "primitive hordes" to the "industrial society." It is still present today in the duality "developed/developing," or in a more subtle manner, in the motto of the of United Nations Sustainable Development Goals, "Leave No One Behind."

[4] The Measure of Economic Welfare (MEW), also called Net Economic Welfare (NEW) is an adaptation of Net National Product (NNP) that attempts to only measure the consumption of goods that contribute to economic well-being (Samuelson and Nordhaus, 1989). The indicator accounts for the services of consumer durables, leisure, and unpaid work, and corrects for the costs of environmental pollution and defensive expenditures such as commuting to work and government services such as police, sanitation, road maintenance, and national defence (Nordhaus and Tobin, 1972).

[5] The Genuine Progress Indicator (GPI) is calculated in three steps (Talberth et al., 2007: 3): estimate of personal consumption expenditures weighted by an index of the inequality in the distribution of income, addition of positive non-market activities (e.g. volunteer work, consumer durables, housework and parenting), and deduction of defensive expenditures (e.g. cost of crime, loss of leisure time, cost of commuting, carbon emissions damage).

Measures of Australia's Progress (2002), the *Green GDP* initiative in China (2006), the *Wealth of Nations* reports of the World Bank (2006, 2011, 2018), *Sustainable Society Index* (2006), the New Economics Foundation's *Happy Planet Index* (2006), European Commission's *Beyond GDP* initiative (2007), Stiglitz-Sen-Fitoussi Commission (2008), *Indicateur de Santé Sociale*, (Social Health Indicator) in France (2008), *National Welfare Index* (2009), OECD's *Framework for Measuring Well-being and Progress* (2009) and the *Better Life Index* (2011), *Multi-dimension Poverty Index* (2010), the *Common Good Product* (2010), *Social Progress Index* (2014), *Inclusive Wealth Index* (2014), *Sustainable Well-being Index* (2016), as well as the *Economic Well-being* publications of the UK's Office for National Statistics (2014), and more recently the *Inclusive Development Index* (2017) of the World Economic Forum, the *Sustainable Development Goals Index* (2018), the *Legatum Prosperity Index* (2018), or New Zealand's *Well-being Budget* (2019).[1]

As for France, in June 2015 the *Conseil économique social et environnemental* (Cèse) and *France Stratégie* published a set of ten indicators[2] along a threefold division in economic, social, and environmental health. This proposal was made in preparation of the "Sas law" (n°2015-411), which requires the government to prepare a yearly report detailing the evolution of a selection of alternative indicators as well as the impact of past, present, and future policies on such indicators.[3] This approach remains, however, limited because it is used as a complement to, and not substitute for, GDP; as the law says, "*alongside* the evolution of gross domestic product." Analysing the two first Sas reports, Thiry (2017) points to the risk of these indicators being used merely as rhetoric devices to legitimate the continuation of economic growth. It is perhaps telling to see that both the reports for 2017 and 2018 were published at the end of February the year after, when they were supposed, according to the law and in order to be used in budget discussions, to be delivered on the first Tuesday of October of the current year.

Statistics tell stories and each of those indicators tells a different story about what the economy is and what its desirable state should be. Yet, none of those stories has been powerful enough to replace the one told by Gross Domestic Product. Van den Bergh (2011: 886) talks of a "GDP Paradox": whereas it has become uncontroversial to claim that GDP is failing as an indicator of social welfare, it is nonetheless still the dominant indicator used for that purpose.[4] "[C]itizens are free to choose whatever they want – as long as it's GDP" (Fioramonti, 2017: 209).

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[1] For a more exhaustive review, see Hoekstra (2019: 82-83); van den Bergh and Antal (2014); Singh et al. (2012); Böhringer and Jochem (2007); Hanley (2000); as well as the table showing the most-cited post-GDP indicators in Fioramonti (2017: 80-82). For lists, see alternative indicators database such as the Compendium of Sustainable Development Indicator Initiatives (900 indicators) or Wikiprogress (500 entries). For a more in-depth history of alternative to GDP indicators, see Moore and Schmidt (2012) and Hoekstra (2019).

[2] (1) Employment rate, (2) productive capital, and (3) public and private debt for the *economic* aspect; (4) life expectancy, (5) life satisfaction, (6) income differentials, (7) education levels for the *social*; and (8) carbon consumption, (9) bird diversity, and (10) waste recycling for the *environmental* (for more, see Aussilloux et al., 2015).

[3] The law contains one single article: "The government annually delivers to Parliament, on the first Tuesday of October, a report detailing the evolution, in previous years, of new wealth indicators such as indicators of inequality, life quality, and sustainable development, as well as a qualitative or quantitative analysis of the impact of policies implemented in the preceding year, the current year, and those planned for the following year, especially concerning the laws of finance (*lois des finances*), on such indicators alongside the evolution of gross domestic product. This report can be debated in Parliament" (mt).

[4] For those who argue that GDP is better than nothing, one might follow Daly (1996: 115) and retort that it is actually worse than nothing: "Is not even the poorest approximation to the correct concept always better than an accurate approximation to an irrelevant or erroneous concept? Indeed, it could be reasonably argued that we might be better off to abandon GNP as a criterion even if we had nothing better to put in its place."

Several authors have tried to explain the paradox. Seaford (2013) offers 12 barriers to explain why alternative indicators are not used to guide policy: resources (*budget constraints*, *data problems*), resistance (*natural conservatism*, *expected redundancy*), communication (*ignorance or confusion*, *lack of a strong alternative narrative*, *negative rhetorical* and *political associations*), complexity (*no single alternative indicator*, *uncertainty*), and organisation (*lack of feeling of ownership of alternative indicators*, *of multi-disciplinary attitudes*, *and of expertise*). In another study, this time focusing on two case studies in Germany and Belgium, Bleys and Whitby (2015) list three barriers: context factors having to do with the Global Financial Crisis; methodological issues concerning the alternative indicators; and an incompatibility with users' needs or/and beliefs. Strunz and Schindler (2017: 11-12) argue that politicians might be wary about alternative indicators because they could critically re-evaluate their performance while polluting industries would oppose them as a preamble to stricter regulations. For Hoekstra (2019), it is simply because the macroeconomic community is more powerful than the one touting well-being and sustainability, especially since the latter lacks coherence and cooperation: "the Beyond-GDP cottage industry cannot compete with this GDP multinational" (ibid. 100).

This leads to a more fundamental question: How to explain such an intense interest in national income accounting, even in times of prosperity? Hoekstra (2019: 31) talks of a "Studenski's Paradox," referring to Paul Studenski who in its study of national income accounting over the 1665-1958 period (*The Income of Nations*, 1958) argued that the development of national accounting was fast during periods of crisis but slow otherwise. This is definitely not the case anymore, with GDP keeping its dominating position at the fore front of politics rain or shine. One reason that explains both the "GDP Paradox" and "Studenski's Paradox" has to do with the existence of a deeper ideology of growth, an idea that will be explored in the last section of this chapter.

It is only because Gross Domestic Product (GDP) was invented that we can today speak of economic *growth*. Invented in the midst of the Great Depression in the United States, the indicator became the ruling measure of economic performance all over the world and changed the relations between society and economy. Now measurable, the economy understood as an aggregation of transactions became something that the government could manage; it also had a cultural impact by changing the very purpose of social organisation, from stability, employment, and social welfare to limitless increases in commodity production. GDP was criticised for failing to distinguish between goods and bads, not accounting for unpaid activities, nature, inequality, and qualitative changes, as well as imposing a universal metric for progress. Building on these shortcomings, the last fifty years saw a plethora of new indicators offered to either complement or replace GDP. But pretenders failed and Gross Domestic Product remains dominant globally.

When and where does it grow? Growth in time and space

Now that the economy has been *invented* and that it has been *measured*, let us look back in history to trace where and when economic growth began. This exercise should be treated with

caution. If the economy and its measurement are recent inventions, it might seem improper to scrutinise pre-economic times through the lens of GDP. This concern, however, is not too problematic for this section's claim, which is that the phenomenon of economic growth is historically recent.

When it comes to Western countries, there is a consensus among economic historians that economic growth is (a) a recent phenomenon that began in Western Europe around the time of the Industrial Revolution; (b) an episodic phenomenon that peaked during the Golden Age between the end of the Second World War and the collapse of the Bretton Woods system at the beginning of the 1970s; and (c) a phenomenon that has been unevenly spread geographically among countries.

Recent

The work of Angus Maddison (2001) provides a historical perspective of how growth has evolved over the long term. Looking over the last 2000 years, he notices that per capita income only started increasing during the 18th century. Before that, economic activity around the world evolved in periodic ups and downs of imperceptible magnitude, the average GDP growth per year of 0.01% (0-1000) and 0.22% (1000-1820) being essentially due to a slow increase in population (Maddison, 2001: 28). Without demographic changes, there was no advance in global per capita income during the first millennium of the Common Era and only a 0.05% average annual change in the following millennium up to 1820. In the period stretching from 1000 to 1820, economic activity in Western Europe kept increasing at a steady pace of approximately 0.15% per year, triple the per capita rate of GDP growth for the world.

Around 1820, economic activity started to expand in Europe with the development of steam engines, cotton-spinning machines and railroads. European GDP grew by 0.95% (compared to 0.53% for the world) over the 1820-1870 period marking the end of the First Industrial Revolution (1760-1840).

The Second Industrial Revolution (1840-1900) was marked by the discovery of electricity, the internal combustion engine, running water, chemicals and petroleum, and witnessed a further acceleration of European growth to an average 1.32% between 1870 and 1913. It was during that time (1880s) that coal overtook wood as the single most important source of energy (Victor, 2008: 58) and that capitalism acquired the basic institutional shape (e.g. for-profit business structures, bankruptcy law, central bank, welfare State, labour laws) that it has today (Chang, 2014: 79).

The two world wars and the Great Depression brought about a relative slowdown in the pace of increase (0.76% between 1913 and 1950 for Western Europe and 0.91% for the world).

The 1950-1973 period is the true anomaly in the history of growth with the highest growth rate in history (4.08% in Western Europe, 3.49% in Eastern Europe and USSR, 8.05% in Japan, and 2.93% globally). A variety of factors have been proposed to explain what is now referred to as the Golden Age of Capitalism, including the establishment of the Bretton Woods institutions (1944), the General Agreement on Tariffs and Trade (1947), and the European Coal and Steel Community (1951). The most influential explanation for this upsurge of growth, however, is the reforms in economic policies and institutions that gave birth to the modern

mixed economy, especially the creation of State-owned enterprises for key industries like steel, railway, banking, and energy (Chang, 2014: 101).

The times of high growth rates ended with the Collapse of the Bretton Woods system in 1971 and the oil shocks of 1973 and 1979 with the Western European economies getting back to an annual 1.78% in the period between 1973 and 1998 (1.33% for the world). Reflecting on that history, it is only the last eight generations of humans who have experienced consistent growth (Ellwood, 2014: 16).[1]

Episodic

For Piketty (2013), economic growth is by nature episodic because it only occurs when countries catch up with each other: "there is no example in history of a country standing at the world technological frontier that would experience rates of growth higher than 1.5%" (ibid. 156). This concurs with biophysical economists who, following Hubbert (1993), argue that exponential growth is bound to be a transient phenomenon.

Gordon (2016: 3) speaks of a "special century," arguing that economic growth is not steady or continuous, but rather an anomaly of the period 1870-1970 that will not be repeated: "the rapid progress made over the past 250 years could well turn out to be a unique episode in human history" (Gordon, 2012: 1). In a similar vein, Schmelzer (2015: 269) calls the fast growth of Western economies from 1760 to 1970 a "historical exception."

All in all, what the history of economic growth seems to suggest as to the current secular stagnation is that "slow growth is not the new normal, it's the old norm" (Elliott, 2017). This finding contrasts starkly with the general expectation that the economy of a developed country should grow by 2-3% per year (O'Neill, 2012: 1).

Uneven

Economic historians also note that economic growth was not evenly spread all over the globe.[2] The economic history of humanity is one of an increasing divergence of speeds, where regions such as Western Europe and its offshoots (United States, Canada, Australia, and New Zealand), as well as Japan came to be the fastest-growing economies in the world.

Maddison (2001: 126) calculates the interregional spreads of levels of per capita GDP over the 1000-1998 period. While growth, or rather the absence of it, was evenly distributed in 1000 (interregional spread of 1:1), Western Europe managed to grow twice as fast as some regions such as Latin America or Africa by 1500, and three times as fast by 1820 – the so-called "European miracle" (Jones, 1981). After 1820, the difference between the fastest- and slowest-growing economies exploded to reach a ratio of 19-to-1 by the end of the twentieth century (5:1 in 1870, 9:1 in 1913, 15:1 in 1950, and 13:1 in 1973). The apparition of this two-speed world was described by historian Kenneth Pomeranz (2000) as "the great divergence."

The European "miracle" is not that miraculous, however. As I will argue in more detail throughout the two following chapters, the European boom can be explained by the availability

[1] "For Western citizens, then, the era of growth has lasted for, at best, 200 years, barely 0.4% of the minimum of 50,000 years that mankind has existed. Considered as a 24-hour day of which now is midnight, we may have started farming at about 7.15 this evening, but we have only been living with industry and assumed growth since 11.54pm" (Morgan, 2016: 150).

[2] Not only was economic growth unevenly distributed among countries, but it was also among people within countries. I will return to this point in the equality part of Chapter 4.

of cheap nature and cheap labour, most often rendered available by violence, colonisation, and unequal exchange (Patel and Moore, 2017).

This brief travel in time and space yielded three main findings. First, economic growth had a relatively recent beginning, which means it is not an inherent feature of human civilisation. Of course, this is not to say that the increase in GDP per capita that occurred in the last three centuries did not contribute to human welfare, but rather that there is nothing unnatural about imagining futures without growth. Second, growth had a peak; it follows that the high rates of expansion that occurred during the Golden Age and which are today expected from early industrialised economies are not likely to materialise in the future. And finally, growth had a geographical location, which hints that there may be specific social and ecological circumstances that could explain its occurrence. In sum, the history of growth is mostly a history of no or slow and unequal growth which confronts us with a challenging thought: it would have been possible for human societies to *never* experience economic growth.

How does it grow? Sources and drivers

If historically, economic growth is the exception rather than the rule, what caused it in the first place and why did it continue? Also, what accounts for the striking differences in growth rates across countries in history and today? Answering these questions, this section seeks to understand the nature and causes of growth as a real phenomenon.

It remains a paradox that despite the importance attributed to growth, it has received little scientific attention and remains poorly understood. Most contemporary accounts of economic growth are still within the analytic path-dependency set by early growth theories such as the Harrod-Domar (1939 and 1946) and Solow-Swan (1956) models and later Lucas (1988) and Romer (1990). The core insights of these theories is that economic growth is driven by innovation, which is itself driven by investment. As to what innovation is and how precisely it turns into more production and consumption, opinions widely diverge.

What is certain is that economic growth is complex and involves factors beyond the jurisdiction of economists. The purpose of this section is not to build a specific theory of growth that would precisely and accurately predict its occurrence. Instead, what I offer is a rudimentary conceptual framework that details the different mechanisms at play in a growing economy. I start by decomposing growth in a dual process of *expansion* and *intensification* of commodity production; I then identify five sources of growth (*nature*, *labour*, *tools*, *knowledge*, and *institutions*) and three drivers that lead them to be mobilised in commercial production (*consumerism*, *productivism*, and *growthmanship*).

Expansion and intensification

"Economic growth" is what Lakoff and Johnson (1980) call an "ontological metaphor," that is a term that reduces a complex phenomenon to a single entity (the economy) with a simplistic behaviour (growing or not growing). But in fact, and this is the main insight of this section, an economy does not *grow*.

Rather, economic growth has to do with a change in scale and/or pace. Like an engine, it can run faster (pace) or get larger (scale); so when an economy is metaphorically said "to grow," it means that it either expands (widens in geographical and/or social space) or intensifies (accelerates in pace). This division recalls Marx's two stages of accumulation as theorised by the French "Regulation School" (e.g. Aglietta, 1976; Boyer, 1990). I will keep with their terminological conventions and call *extensive* a form of accumulation (the Marxian term for growth) where the economy expands in space and *intensive* when it intensifies in pace. (If I am borrowing the terms from the Regulation School, I do not commit to the way they define them and propose a slightly different definition.)

A regime of accumulation is *extensive* (or synonymously, *expansive*) when a market economy expands in scale to occupy new social, geographical, and temporal spheres. It does so by a process of commodification whereby certain things that were outside of the realm of market exchange are turned into standardised, quantified, monetised, and privatised products to be bought and sold on a market.[1] GDP rises during expansion as more things are exchanged for money on markets instead of being allocated via sharing, reciprocity, or redistribution. The creation of Airbnb, for example, extended the commodity frontier by creating a market where there was none. Same case for financial products that before being invented were obviously not traded. The extension can also be in time: allowing Sunday work increases the total volume of hours worked, which can translate into more production (even though this causal relation is complex and can go both directions). In sum, economic expansion has to do with an increase in the diversity of monetary transactions; not only more of the same but new ones.

A regime of accumulation is *intensive* when a market economy intensifies within the boundaries of the markets that already exist. Consider someone using Airbnb once a month instead of using it once a year; the volume of monetary transaction would increase twelvefold. Or perhaps, imagine a firm that would intensify production by furthering the division of labour, introducing a new technology, or just using more energy, with the result of increasing its output per hour (which one assumes it would manage to sell). The technological change of economists (i.e. measured by Total Factor Productivity) is a measure of intensive growth for that it represents the monetary value created out of the same quantity of factors of production. This change is not purely quantitative for that it also has to do with the value of products that are bought and sold. Selling an expensive Ferrari contributes to GDP growth more than selling a cheaper Peugeot.

Let us now reverse the situation. If economic growth means accumulation via either *expansion* or *intensification*, then a negative economic growth can be seen as either *shrinking* or *relaxation*. Decommodify market commodities and the GDP economy *shrinks*. For example, if scientific articles, which are today sold by private publishers, were to be managed by scholars themselves under a commons regime like Wikipedia, then they would disappear from national accounts (unless their value is indirectly imputed). The articles would still exist but they would not be accounted in GDP in monetary terms, which would have then gone down by the value of articles no longer bought and sold – the economy would have shrunken.

[1] To be precise, let us further divide this extensive growth into two cases. The *growth by commodification* is the one I described above, namely when relations are turned into commodities in reality (e.g. privatisation of a child care commons). But in terms of accounting, imputing the value of non-monetary production into GDP would equally look like economic growth – a sort of *growth by GDP-fication* (e.g. the child care commons still exist in reality but it is accounted for in monetary terms as to be included in GDP).

In contrast, if people decide to consume less or firms decide to produce less, then the GDP economy *relaxes* in the sense of a slowdown, a reduction in intensity.[1] The economy would, in other words, contains the same diversity of traded commodities, except less in quantity. If Elsevier decides to publish only half as much articles, and assuming the entire economy is only made of Elsevier's sales of articles, then GDP would be cut in half – the economy would have slowed down.

In national accounting, both the emergence of new monetary exchanges and the intensification of old ones make GDP goes up. Because it is an indicator of flow, it cannot account for this subtle difference, and this is why the question of whether economic growth is desirable or not is badly posed. The question is not how large your growth rate is, but what is it made of. Perhaps, one would find reasons to prefer an economic growth made of technological innovation rather than one solely based on the creation of new financial markets. If one further dissects GDP growth into sectoral trends, one may find the enlargement of some sectors like education desirable while seeing the shrinking of others like prison services also desirable (even though one may argue that the monetary aspect of these activities say little about their quality).

Behind this question lies a more fundamental one: Is subjecting new social and ecological spheres to the logic of commercial exchange and intensifying the pace of already existing commodity trading desirable? A switch from Couchsurfing and Wikipedia (uncommodified and thus outside GDP) to Airbnb and Elsevier (commodified and thus inside GDP) involves complex changes in the nature of social relations, which I will argue in the second part of this dissertation, are unwelcome.

In the end, the metaphor of economic growth is misleading for that it assumes that more is always better and that less is always worse. But economic growth is not singular but plural – economic growths. Thinking in terms of *expansion/shrinking* of the market sphere and *intensification/relaxation* of productive capacities allows a slightly better differentiation between the GDP trends that should be celebrated and the ones that should be dreaded. This being said, it remains that the desirability of economic activity ultimately has more to do with its quality (what it does) than its quantity (how much does it do).

Source and drivers of growth

Imagine the economy as a cake and economic growth as this cake getting bigger. The basic ingredients without which there could be no cooking in the first place – natural resources, labour, tools, knowledge, and institutions – I call *sources*. *Drivers*, on the other hand, are the social mechanisms at play explaining why these ingredients are set in motion for the production of commodities instead of being used for non-commercial production or being left idle.

[1] I chose the unusual term "relaxing" intentionally. It evokes the resting of a muscle that would then require less energy, which announces the main claim of Chapter 2, namely that economic activity is unavoidably linked to the biosphere. Furthermore, it carries positive connotations, evoking a resting from stressful activity (often work), which announces a point I will develop in Part II: the hypothesis that a slowing down of economic life is socially desirable.

Sources

Gross Domestic Product (GDP) measures the production of market commodities (and the production of non-commodities whose value is imputed as such). Just like any other form of production, commodities are produced using several of the following five factors of production: *natural resources*, *labour*, *knowledge*, *tools*, and *institutions*.[1]

(1) *Nature*. There can be no production without energy and matter. Even the most immaterial product requires some form of energy. It is a common place saying that anything requires time and effort; if time is labour, then effort is energy. It can take the form of resources (materials, energy, water, land, and living biomass) or ecosystem services (e.g. pollination, soil formation, regulation of freshwater, or genetic resources), and can be used directly in production (fish is caught and sold) or indirectly through various reproductive practices (fish contributes to cultural identities).

(2) *Labour*. Defined as time and effort applied to a specific task, labour is present in all forms of production. Labour is a function of population (how many people there are), health (how many of them are able to work), and the cultural organisation of work (how much they are willing or required to spend time and effort in production). Just like with nature, labour is used both directly (spending time to turn fish into sushi) and indirectly (spending time caring for the people as to render them able to turn fish into sushi).

(3) *Tools*. This is what economists call "manufactured capital," the machines, instruments, and all the other objects beyond the boundaries of the human body that are used in production (in accounting terms, usually over a time span of one year or more). A sushi knife, a road, or a submarine communication cable are examples of human-made, material artefacts that can become factors of production.

(4) *Knowledge*. I call knowledge what economists otherwise refer to as "human capital," namely all the attributes possessed by groups and individuals, including knowledge, skills, confidence and all other capacities that enable them to participate in production. They can be individual (knowing how to prepare sushi) or collective (the wikiHow webpage for cutting sushi) and depend on education and training.

(5) *Institutions*. Production is always culturally framed by institutions. The use of nature and tools requires property arrangements within the community; exchange is eased by money while reciprocity relies on trust, and sharing requires sympathy; banks facilitate investment; the organisation of work is framed by rules and customs; and ethnic, religious, or secular values affect the do's and don'ts of economic life.

[1] In mainstream economics, it is usual to group them in the two categories of labour and capital, assuming that capital can either be natural, manufactured, social, and human.

If all the sources above can be used to produce commodities, most of the time they are not. In the non-capitalist economies that characterised most of human history, these sources were mobilised mostly for provision outside of the market sphere and framed by a logic of social reproduction with the goal of sustaining, and not of perpetual increase. In order to understand what causes their (increasing) mobilisation in commercial production, one must look at what I referred to as *growth drivers*.

Drivers

Drivers of growth are mechanisms that push up the production of commodities, then measured as economic growth in terms of GDP. (I am referring here to *commercial* GDP, that is the part measuring real commodity transactions, in contrast to non-commodities whose value is imputed into GDP *as if* they were commodities.) Drivers explain what causes nature, labour, tools, knowledge, and institutions to be mobilised to make market goods and services. As a simplified typology, I propose the following three categories having to do with growth pressures happening at the level of the household (consumerism), the firm (productivism), and the State (growthmanship).[1]

> (1) *Consumerism*. In a society where comfort, well-being, and status is associated with the consumption of commodities, people seek to satisfy their needs by purchasing products. Getting hold of the money requires working for a wage, contracting consumer loans, earning profit, extracting rent, or engaging in any other activity that can generate an income. Whether it is for personal pleasure, positional competition, or the repayment of private debt, and whether it springs from an autonomous consent or provoked by advertising, planned obsolescence, and predatory lending, consumerism drives up commercial consumption.
>
> (2) *Productivism*. In competing for market shares and profits, financially-driven firms invest as to improve their productive capacities and innovate to supply novel products and services. Different ways of improving productivity include accessing new natural resources, training employees, developing new technologies, or improving company culture. Whether it is because of a profit motive, the advantages linked with being larger than its competitors,[2] the repayment of debt, or because of a broader culture of market entrepreneurship, productivism drives up commercial production.
>
> (3) *Growthmanship*. The actions of governments and international organisations that actively promote economic growth are a direct driver of both production and consumption. Public authorities may do so with the intention of fighting unemployment, eradicating poverty and reducing inequality, lowering levels of

[1] If I am only pointing to the existence of these three cultural paradigms without much discussion on their inner nature, this is because they will be explored at length throughout the thesis.
[2] For example: economies of scale, better reputation, ability to integrate part of the supply chain, power over suppliers and government, financial independence, security, international opportunities in exploiting wage, tax, and regulation differences.

public debt, securing geopolitical power, or just to be able to finance their operation via the taxation of market activities.

But the question remains: How do the three drivers interact, and is there one that prevail over the others? Of course, the answer is that it depends of the social context, but that answer does not take us far. At this point in the dissertation, there is no need to identify one fundamental impulse for growth that will explain all others. Instead, and for the moment,[1] let us imagine the GDP economy as a lake sitting at the confluence of several rivers whose contribution to the increase in size of the lake depends on changing circumstances.

To summarise the argument to this point: the occurrence of economic growth in a market economy hinges on three things: consumers willing to purchase additional goods and services, businesses willing to produce them, and a government that supports the whole process. The growth engine is powered by the pursuit of income for consumption by households (consumerism), the pursuit of profits by firms (productivism), and the pursuit of GDP by governments (growthmanship). For an economy to grow over time, both supply and demand must increase. Although each process has its own mechanisms, they together form a macroeconomic reinforcing feedback loop: an increasing aggregate demand tends to trigger additional investment, which at the same time increases supply and adds up to aggregate demand and so on.

An economy does not "grow" but rather *expands* by widening the domain of market exchange or/and *intensifies* by swelling the volume of transactions for commodities that already exist. (This terminology also works in reverse with negative economic growth being either *shrinking* or *relaxation*.) As to what causes these upward tendencies, I have listed five potential sources of economic growth (nature, labour, tools, knowledge, and institutions) and three drivers (consumerism, productivism, and growthmanship) explaining what lead them to be mobilised for the production of commodities. These drivers all have to do with the pursuit of larger quantities of money, either at the level of households (income motive), firms (profit motive), or governments (GDP motive).

Why should it grow? Collective imaginaries about growth

Even though economic growth has material manifestations (e.g. resources are used, work is performed, products are consumed), those only describe what growth *does* and not what it *is*. More than a real phenomenon and more than an "arbitrary calculation" (Fournier, 2008: 529), economic growth is also an ideology.[2] Here I make a difference between *economic growth* (or *growth* for short) to refer to the real phenomenon (the expansion and/or acceleration of

[1] I will have more to say on this topic in Chapter 6.

[2] Daly (1972) calls it a "growth paradigm," referring to the pre-analytic vision of mainstream economists that justifies a belief in economic growth. Other authors such as Purdey (2010), Dale (2012), Schmelzer (2016), and Kallis (2018: 63) also use the term "growth paradigm," this time to describe the exact same thing I call growthism. I find the term "paradigm" to be misleading for that it makes it sound like the growth ideology lives inside the realm of science. I prefer to speak of a "growth *ideology*" to emphasise how this worldview is political and not only academic.

commodity production) and *growthism* or the ideology of growth to refer to a system of cultural representations associated with that phenomenon.

Growth as ideology

Following this division, the economic growth described by economists is only the tip of the iceberg of growthism. As evidence of the extent of this invisible side of the iceberg, consider the presence of growth concerns in seemingly unrelated policy domains such as health, safety, family planning, and environmental standards (Spangenberg, 2010: 565). Rogoff (2012) aptly summarises the situation calling economic growth "the be-all and end-all of policy." "The public management of things and people is hegemonically articulated around a naturalisation of the need for economic growth" (Swyngedouw, 2007 cited in Asara et al., 2015: 1) in a way that makes it impossible for civil society and public authorities to think of progress outside of GDP (Fioramonti and Bell, 2014).[1]

In times of climate change and intensifying resource scarcity, it is the economy that needs to be saved as opposed to nature (Foster, 2011: 101). For Gordon (2012), the state of the environment is a "headwind" to economic growth. Piccard and Rial (2019) announce the COP25 as "a crucial summit to prevent economic recession." This belief is apparent in the latest report of the Intergovernmental Panel on Climate Change (IPCC) where an entire section (n°B.5.5) is dedicated to "climate-related risks to economic growth," including statements along the line of the following: "*Risks to global aggregated economic growth* [measured as GDP] *due to climate change* impacts are projected to be lower at 1.5°C than at 2°C by the end of this century" (IPCC, 2018: 11-12, italics added).[2] Likewise, the *Better Growth Better Climate* report worries that "in the long term, if climate change is not tackled, growth itself will be at risk" (WRI, 2014: 9). The World Economic Outlook report of the IMF (2019: xvi) announces that "avoiding policy missteps that could harm economic activity needs to be the main priority."

Growth has become a political and social obsession as well as a grand narrative: it is not that society *has* a growth economy, rather it *is a growth society* (Trainer, 2012: 593). Revisiting Harvey's (2014: 7) definition of capitalism, growthism can be described as "any social formation in which processes of [economic growth] are hegemonic and dominant in providing and shaping the material, social and intellectual bases for social life" (Harvey talks of "capital accumulation" in the original sentence). Substituting "growth" for "capitalist" in a sentence from Fisher (2009: 16) gives an accurate description: "[Growth] realism is more like a pervasive atmosphere, conditioning not only the production of culture but also the regulation of work and education, and acting as a kind of invisible barrier constraining thought and action." This "exponential-growth culture," Hubbert (1993: 125) writes, "[is] so heavily dependent upon the continuance of exponential growth for its stability that it is incapable of reckoning with problems of nongrowth."

[1] American economist Paul Romer provides a quite fitting example to my point when he claims, as reported by Cowen (2018), that regularising the spelling of the English language as to make it more phonetic could boost the rate of economic growth.
[2] Here is an obscene example of how tragic events are sometimes interpreted solely via the impact they have on GDP: "When a tsunami damaged the Fukushima nuclear reactor in Japan in March 2011, one effect was that a Hitachi factory producing 60% of the world's airflow sensors was shut down, leading to disruption in vehicle production on the other side of the world: General Motors shutting a plant in Louisiana for a week, and Peugeot-Citroën slowing production at its European factories" (UNEP, 2014: 36).

The pervasiveness of growthism is the reason why any presentation dealing with the concept of economic growth would remain incomplete without a description of how it came to occupy the individual and collective imaginaries of the great majority of nations. This last part reviews and expands on the limited literature that has scrutinised growth as a "social paradigm," defined as "a specific ensemble of societal, political, and academic discourses, theories, and statistical standards that jointly assert and justify the view that economic growth as conventionally defined is desirable, imperative, and essentially limitless" (Schmelzer, 2015: 264). This part will be guided by the following questions: How did the pursuit of growth become a priority? Why and how is the "GDP fetish" (Stiglitz, 2009), the "growth fetish" (Kallis et al., 2012: 7), the "cult of economic growth" (Jackson, 2011: 88), or the "myth of growth" (Jackson, 2017: 21) perpetuated? What is it that makes individuals and communities perceive growth as imperative in the conduct of their daily lives?

The concept of growth is recent and its ideology even more so

Earlier in this chapter, we saw that economic growth was a recent phenomenon in the history of human societies dating back to the Industrial Revolution. It is therefore not surprising that the notion of economic growth is also recent as it grew alongside the appearance of the physical reality of growth. The ideology of growth, however, did not emerge straight after the economy actually started to grow.[1] The idea of economic growth first had to be invented (the economy *can* grow) and then had to be loved (the economy *should* grow).

When did the concept of economic growth appear? Tracking the use of the term in economic discourse in the period 1890-1960, Hirschman (2016) affirms that discussions of economic growth only emerged after the Second World War.[2] The use of the term "growth," to mean increasing economic output, was first cited in the *Oxford English Dictionary* only in the 1950s. Shenk (2014) points to the fact that, before 1940, no economics dissertation in the United States included the phrase "economic growth" in its title. In his study of 42 introductory economics textbooks published between 1890 and 1960, Hirschman (2016) notices that even after the concept of national income came to dominate in the 1940-1950s, the primary concern remained its stability and not its increase. In writing the influential *The theory of economic growth* (1955), Arthur Lewis noted that "no comprehensive treatise on the subject [had] been published for about a century" (cited in Schmelzer, 2016: 78). One of the first growth theory, the separate works of Roy Harrod (1939) and Evsey Domar (1946), was developed out of an interest in achieving full employment, growth only being a means to that end. The 1951 edition of Paul Samuelson then classic textbook *Economics* (1948) did not include discussion on growth (Schmelzer, 2016: 140) and American economist Moses Abramovitz called theories of growth "rudimentary" and "underdeveloped" in his 1952 Survey of Contemporary Economics.

[1] Although the idea of economic progress and policies geared towards expansion were already present among classical economists, the new understanding of growth that developed later in the middle of the 20th century was different on three accounts (Schmelzer, 2015: 264). First, classical economists lacked the techniques of quantification that were later developed in national income accounting to measure what was actually growing and how fast; second, they still held a biophysical ontology that saw growth as being fundamentally restricted by material reality, especially land; and finally, it was not until the 1950s that economic growth came to be considered as an indicator of societal welfare and a policy objective.

[2] As noted by Hirschman (2016: 85-86), the publication of Paul Samuelson's *Economics* in 1948 is a case in point. "National income provides the central unifying theme of the book (ibid. v) and "it is the first task of modern economic science to describe, to analyze, to explain, to correlate these fluctuations of national income" (ibid. 5).

And when did economic growth start to be considered desirable? Collins (2000: x) dates the emergence of what he describes as "growthmanship" or "the seemingly single-minded pursuit of exuberant economic growth" to the mid- and late 1940s in the US and 1950s in Europe. Schmelzer's (2016) historical study of growth in the OECD finds no trace of stand-alone growth objectives before the 1949's Council of Economic Advisers in the United States, which Collins (1990: 149) called "growthmanship's declaration of principles." The first OECD growth target (4-6% annual over a decade) appeared in 1961 (Schmelzer, 2016: ch.4).

Mitchell (2014: 493-98) stresses the invention of the logarithmic scale that allowed to give an impression of stability in the variation of economic growth over time, whereas a non-logarithmic display of the same data would show an exponential curve that people would interpret negatively as the economy going out of control in an unstoppable acceleration. It is a surprising paradox that the idea of growth was sold by being branded as stable.

As amply evidenced by Schmelzer (2016: ch.2), the objective of maximising GDP growth was actively propagated by the Organisation for European Economic Cooperation (OEEC), first in the United States in the early 1950s and then throughout the world after that, often against the will of politicians. Poole (2015) reports that some politicians like British prime minister Harold Wilson were still reticent to engage in "Growthspeak" throughout the 1960s.[1] This campaign speech by Franklin D. Roosevelt in 1932 shows well that, back then, it was stability and not growth that was heralded as ultimate economic goal.[2] And yet, growth slowly made its way towards becoming a synonym for prosperity. As American economist James Tobin declared during his 1964 speech at the *American Economic Association*: "growth has become a good word" (cited in Schmelzer, 2016: 188).

Arndt (1978: 30) writes that only with difficulty can one find "any trace of interest in economic growth as a policy objective in the official or professional literature of Western countries before 1950." Schmelzer (2016: 158-59) reports that several widely used terms in the policy objectives of Western governments such as "economic expansion" but also "development," "upsurge," "productivity," or prosperity" only came to be replaced by "economic growth" after the 1950s. In the United States, it is only in 1953 that the Council of Economic Advisors' *Annual Report of the President to Congress* started to speak of "the economy" and not only of "the nation's economic budget," and that the growth of *the economy* came to substitute more specific desires for expansion of trade, population, or natural resources (Mitchell, 2014: 489-91).

What was new was not the desire to maximise national wealth (this was already at the heart of the mercantilist doctrine and countless others before that) but the focus on maximising the growth rate of that wealth – not only more, but more *faster*. The signs displayed in the US Commerce Department during the 1960s asking "What have you done for growth today?" capture it all (see Schmelzer, 2016: ch.4 for a history of growth targets during that period). This

[1] Poole (2015) reports on an interview of Harold Wilson by the Oxford Times dating from 1965: "I am now fighting a losing battle on another word I dislike – growth – which had a certain medical and agricultural connotation."

[2] "Our industrial plant is built; the problem just now is whether under existing conditions it is not overbuilt. Our last frontier has long since been reached, and there is practically no more free land… […]. Clearly, all this calls for a re-appraisal of values. A mere building of more industrial plants, a creator of more railroad systems, and organizer of more corporations, is as likely to be a danger as a help... Our task now is not discovery or exploitation of natural resources, or necessarily producing more goods. It is the soberer, less dramatic business of administering resources and plants already in hand… of adapting existing economic organizations to the service of the people" (Roosevelt, 1932 cited in Mitchell, 2014: 492).

question embodies the ideology of growth in its purest form: the subjugation of public servants and, as we will now see, individuals by the logic of forever more.

The culture of Growth: ontology and ethos

A first step in understanding the growth narrative consists in analysing the metaphors surrounding the word "growth" – a topic that, to the best of my knowledge, has only been explored by White (2003).[1] Metaphors shape discourses as they associate ideas automatically and unconsciously to ways of thinking about the economy (Dean, 2014). Examining the British press over the 1990s, White (2003) identifies two metaphors associated with economic growth: "the economy is a living organism" and "the economy is a mechanical process."

The first locates "growth" within the domain of living things, either as a plant that can *revive*, *recover*, *return*, *break out*, *push up*, *recede*, *wither*, *wilt*, *falter* or as an agent who can be *fostered*, *nourished*, *nurtured*, *boosted*, *stimulated*, *smothered*, *choked*, *throttled*, *arrested*, *frozen* (ibid. 137). The alive growth metaphor portrays growth as natural and good and its absence as bad and unnatural[2] (Dean, 2014) – economic stagnation being tied to the "imagery of a fetid, decomposing swamp" (de Saille and Medvecky, 2016: 9).

In contrast, the other metaphor depicts "growth" as a mechanical activity that is described with words such as *trigger*, *kick start*, *spark*, *fuel*, *drive*, *accelerate*, *catalyst*, *main engine*, *locomotive*, *lever*, *put a damper on*, *put the brake on*, *keep on track*, *pick up steam*, and *derail* (White, 2003: 145). This assumes a certain rate of growth as "normal," with any deviation from that level interpreted as a fault.[3]

Those two metaphors seem difficult to reconcile. On the one hand, growth is a natural phenomenon that, like any living organism, appear, develop, mature, decline, and die, with a metaphorical focus on size (growth as increase). But growth is also a perpetual, mechanical process that comes to an end only as the result of an accident, with a metaphorical focus on speed (growth as acceleration). The two metaphors, however, come together at the level of the desirability of growth. In White's (2003: 145) record of all the adjectives associated with "growth" in the *Financial Times* throughout 1997, the more growth the better: economic growth is deemed positive when *rapid*, *firm*, *steady*, *sustained*, *accelerating*, or *booming* and negative when *slow*, *depressed*, *weakening*, *stagnant*, *lacklustre*, *faltering*, or *anaemic*. What this analysis shows is that the growth narrative is predominantly quantitative.

The ideology of growth is summarised succinctly by Mishan (1967: 175) as "enough does not suffice." Because, as I suggested earlier, GDP growth is about both speed and scale, one could also say: bigger and faster is better – or as Buzz Lightyear would say, "To infinity… and beyond!" Economic growth is lauded as manna to society as a whole: more profits for entrepreneurs, more wages for workers, more tax revenues for governments, more employment for job-seekers, more benefits for welfare recipients, and more technologies for everyone. It is no surprise that in international politics, growth has become "a symbol […] of national power

[1] One can also find a few paragraph analysing the growth metaphor in Princen (2012: 10-11).
[2] The fact that the term "growth" imports a biological metaphor biases the debate over the environmental consequences of economic growth by assuming implicitly that economic and ecological growth are equally *natural* processes.
[3] In 2007-2008, the *Commission pour la libération de la croissance française* (Commission for the liberation of French growth) led by Jacques Attali identified 316 propositions to "liberate" economic growth. Semantically, the choice of the word "libération" depicts an understanding of economic growth as a natural phenomenon that should not be constrained.

[…] associated with vitality, rigor, and strength" (Schmelzer, 2015: 267). In political discourses, GDP growth is a barometer that, even though quantitative, is associated to qualitative notions such as development, standard of living, well-being, prosperity, and progress. Arndt (1978b: 43) puts it matter-of-factly: "More rapid economic growth came to be regarded as a prophylactic or remedy for all the major current ailments of Western economies."[1]

The idea of growth is centred on quantity. The growthist answer to the question 'what do you want to be when you grow up' is simply: bigger. "Same as today – only more" (Welzer, 2011: 31), an "idolatry of giantism," Schumacher (1973: 49) would say. In that sense, growthism constitutes a paradox: it is progressive in terms of quantity (*more* is better) but conservative in terms of quality (more of the *same* is better). Once a country has managed to escape a situation of deprivation, it becomes more and more difficult to answer the question: What do we grow for?[2] The growth economy keeps growing precisely because it has no destination; it is alone both the rationale and the direction (Philipsen, 2015: 55). There is no utopia behind growth, no set goal to achieve, and that is why the only thing a growth economy aspires to do is to keep growing for growth's sake alone. The opposite of growth, on the other hand, let it be recession or inertia, is directly associated with negative events such as the stagnation of wealth and personal development.[3] Augmentation becomes progress. "Growth is good, low growth alarming, no growth or negative growth catastrophic" (Levitas, 2013: 171). As noted by Welzer (2011: 22), "the emotional note that always comes into debates whenever it is proposed that we could simply stop growing betrays the role growth has assumed within our emotional framework."[4]

Growthism is an ideology that includes several others: *extractivism* (as an ideology of accelerated exploitation that renders resources available for production); *productivism* (as the belief that producers should maximise production); *commercialism* (the primacy of commodities and profit); *consumerism* (as the belief that consumers should maximise consumption); and finally, *excretism* (to fasten the replacement of products while being able to oust the worry of what happens to materials and energy after use).

What makes the ideology of growth so resilient is the sacredness associated to economic growth. Rowan Williams (2008), the former Archbishop of Canterbury, speaks of an "idolatry of growth" to describe the way in which reality, power, and agency are ascribed to things that

[1] The worldview is perfectly captured by Paul Ryan in a 2018 speech to The Economic Club of Washington, D.C.: "Growth is the beating heart of a free economy. The stronger it is, the more opportunity there is, the more mobility there is. Growth is what gives us momentum, gives us room to run. In our lives, it is the difference between being stuck and moving ahead on the path of life. For our country, it is the difference between leading in the world, and lagging behind" (Ryan, 2018).

[2] "Economic growth is realized; but this is the growth of what, for whom, at what cost, and to arrive at what? A partial *moment* of the economic system […] is set up as the sovereign moment of the economy; and, represented by this partial moment, the economy, itself a moment of social life, is set up as the sovereign instance of society" (Castoriadis, 1987: 159-60, italics in original).

[3] It is telling that one speaks of "negative growth" to refer to an economy that is getting *smaller*, or from a growthist perspective, that is *not getting bigger*.

[4] The ideology of growth could have been perfectly described by Gordon Gekko, a character of the film *Wall Street* (1987), should he replace the word "greed" for "growth": "Greed, for lack of a better word, is good. Greed is right, greed works. Greed clarifies, cuts through, and captures the essence of the evolutionary spirit. Greed, in all of its forms; greed for life, for money, for love, knowledge has marked the upward surge of mankind."

had no life in themselves, and that were, in fact, socially constructed.[1,2] The economy becomes Economy (with a capital E) when it becomes sacred in the minds of its participants; and with this sacralisation comes depolitisation. As the economy is naturalised, seen as something Godly whose existence is independent from the will of its users, it loses its malleability. The economy becomes alive (e.g. the economy or the market *does* this or *feels* like that), it morphs into a mystical creature with an independent set of aspirations. Foucart (2018) even has a name for this cult of the Market: "agoratheism."

Economic growth is a system of beliefs, a god which possesses the power to reject policies that appear to be a threat to its existence" (Urhammer, 2016: 52). Adapting a statement from Jacques Ellul (1912-1994) about technique, "it is not [economic growth] that enslaves us but the sacred assigned to [economic growth]" (in the original sentence, the author was writing about "technique"). The sanctity of growth is reinforced by the complicatedness of GDP calculations, which only a minority of people understand – these "evangelistic worshippers of GNP" (Nordhaus and Tobin, 1972: 4).

In the same way that believers can maintain their faith through personal hardships, the religion of growth can survive times of tribulation such as the Global Financial Crisis (2007-2008), the Great Recession (2007-2009), and the current secular stagnation. There is always more growth at the end of the tunnel, we are being told. This capacity of Growth to survive in the face of persistent failure has to do with the psychodynamics of growthism as an ideology, or the fact that it has managed to colonise people's minds. This is what we now turn to.

Growth as mental infrastructure

A key insight with seeing growth as an ideology is the realisation that it is not only something that exists 'out there,' but also inside of us, living in our identities. This is the main thesis put forward by Welzer (2011: 15) when he describes economic growth as the "mental infrastructure" of industrial societies, meaning that it is not only "enshrined in business and politics, but also in the psychological structure of the people who grow up in such societies." The author is warning that growthism is been internalised by individuals who then reproduce the cultural myth of growth through the formation of their identities. The idea of endless growth enters our mental and emotional lives (i.e. how we think and how we feel), permeates our desires, hopes, and values, and shapes our personal identities and attitudes. What started on the accounting spreadsheet of a handful of economists and politicians has escaped to colonise the habits of thought of the masses, giving birth to a kind of everyday growthism.

The growth ethic translates into a constant desire for improvement. This can apply to any activity from the expansion of knowledge to digital friendships, money or material

[1] Religious analogies abound in the growth-critical literature: the "Great God Growth" (Heller, 1972: 5), "the secular religion of advancing industrial societies" (Bell, 1976: 237-38), "holy growth" (Latouche and Harpagès, 2012: 79; Flipo, 2017: 9), the "semi-religious totem of modern societies" (Kallis, 2017: 18) and the "god of growth" (ibid. 98), the "growth religion" (De Schutter, 2017: 181), "the cult of growth" (Rist, 2008: 242), "the magic wand of GDP growth" (Philipsen, 2015: 89), the "GDP mantra" (Fioramonti, 2013: 19), "the faith of growth" (Ellwood, 2014: 134), "the thaumaturgic gift of growth" (Bonaiuti, 2012: 30), the "religion of the modern world" (Cohen, 2015: 11, mt) or "the secular religion of advancing industrial societies" (Bell, 1976 cited in Friedman, 2005: 15). To the best of my knowledge, the first scholar to conceptualise the market as a religion was Loy (1997) in his seminal article "The Religion of the Market."

[2] Difficult here not to recall John K. Galbraith's (1967) famous joke about the primacy of economic goals in public policy: "The rate of increase in income and output in National Income and Gross National Product, together with the level of employment, remain the all but exclusive measure of social achievement. This is the modern morality. Saint Peter is assumed to ask applicants only what they have done to increase the GNP."

possessions, and life experiences in general. As an unconscious belief that bigger and faster is always better, it is the mentality of an individual that is never complete and always striving to be something else before it is too late.[1] As Alfred Sauvy (1898-1990) is reported to have said, human beings are walkers that never reach the horizon. Biogenetics and the idea of transhumanism fits right in: individuals should be *augmented* with faster cognitive capabilities and bodily functions. Faced with the limitedness of their life on Earth, growth-agents compensate with creating an "image of unlimited good" (Hornborg, 1992), an "ideology of the unlimited" (Cheynet, 2014: 56), a "regime of limitless accessibility" (Romano, 2019: ch.1), or a "myth of the unlimited" (Méda, 2013: 14) pertaining to the consumption of stuff. Individuals find themselves caught in an infinite sequence of existential waiting rooms with commodities acting as doors linking one to another. It is a mentality where subjects "regard themselves as nothing but the precursors of their next step up the ladder" (Welzer, 2011: 23). Stagnation is the most dreaded condition for growthist subjects for that it fails to satisfy their urge or compulsion to have and be more.

According to sociologist Hartmut Rosa (2013: 227) and his theory of social acceleration, this development was made possible by the individualisation that occurred with the advent of modernity "in which substantial alternatives for life and action open up and a gradually increasing amount of responsibility for shaping their own lives is transferred to individuals" (this is also the argument of Romano, 2019: ch.1). Technological revolutions did not only occur in farms and factories but were also accompanied by the emergence of a new type of individual. For the first time, people became designers of their own biographies (Welzer, 2011: 34) and were given the possibility as well as the task to choose who they wanted to be – "to see one's own life as a project to be given shape in time" (Rosa, 2013: 226). This choice was rendered possible by the idea of progress, namely the belief that the future could be, not only different, but better than the present. This freedom to choose one's own life led to the imperative to choose a good life, or even the *best* of all possible lives.

Whereas at first, the choice was opened but still restrained – you *can* change who you are, but you *should not* –, this inhibition was to disappear in advanced modernity – you *can* and *should* change all the time (Rosa, 2013: 229). At this point, growthism colonised the psychology of modern societies by commanding individuals, not only to *have* more, but to *be* more – to be the best you can potentially be. Or more precisely: you should *be* more, and one way of achieving that, is to *have* more. But not everything can be piled up. Unlike material possessions which can be accumulated in increasing quantity at once, you cannot be different people at the same time, which means that the only way to *be more* is to accelerate the pace of change in your personality types – an acceleration of being in Rosa's terms.

Change is never abstract but rather more or less of something concrete. The ideology of growth has substituted *income* (among other quantities) for *time* as a continuum: the wheel of time is replaced by a wheel of money. The present is defined by an income level, the past is the reduction of that income (or only a reduction of its rate of growth), and the future is its increase. "Advanced" nations are the ones that are *en route* towards their futures, "backward" ones are stuck in the past, and stagnating countries like Japan during its two so-called "lost decades" are condemned to an eternal return of the present. This division also applies at the individual level.

[1] Aubrey de Grey (2005) even rejects the idea of a *too late*, arguing that ageing should be treated as a disease.

Who would consider it a success to have less money (or possessions, knowledge, friends etc.) at the age of 40 than at the age of 20? This micro-discourse of personal development inhabits personality types and informs individual behaviour as convincingly as the macro-discourse of development influences public policy.

In the utilitarian world of growthism, any choice concerning family, profession, religion, hobbies, or political preferences should be constantly revised so as to insure it optimally contributes to the personal development of the individual. Voß (1990, cited in Rosa, 2013: 237) calls this conduct of life "strategic" in the sense that it rests on "systematic planning, calculation and active mastery of the conditions and resources of life for the purpose of realising life plans." This is the rise of the "entrepreneurial self" (Bröckling, 2015), a foundational precept of neoliberalism where individuals are considered capital that can create more value if well managed. Like a firm deciding to invest to maximise profits, I decide to go to university, the gym, or a museum to maximise whatever criterion of prestige happens to be prevailing (currently income). And individuals compete not only against others but also against themselves – you should be the *best* version of all your possible selves. Every choice welcomes a cost and benefit analysis, with income or utility to be maximised. This "acquisitive" mentality (Tawney, 1920), the propensity to always calculate in order to accumulate, leads to what Durkheim called "the malady of the infinite" (the term is from *Le Suicide*, 1897), the troublesome condition of insatiability resulting from having unlimited needs.[1]

Online social networks provide a fitting evidence of such a growthist personality. It all starts with quantification of a quality: numbers of *friends* on Facebook, *connections* on LinkedIn, *followers* on Twitter, *likes* on Instagram, *positive review* on Couchsurfing, *endorsement* on Blablacar, *downloads* on Research Gate, or *matches* on Tinder. In such a way, it conflates being with having. You *are* friendly or social because you *have* several hundred friends on Facebook, you *are* desirable because you *have* many matches on Tinder, you *are* competent because you have umpteen downloads on Research Gate. Of course, aspirations for qualitative change are not a problem per se. Only that once a desirable quality (e.g. friendship, accomplishment, recognition, influence) has been turned into a number, it is all too easy to mistake the map for the territory in seeing the proxy itself as the object of desire. Just like GDP, any quantitative proxy can degenerate into an overly simplified more-is-good and less-is-bad way of seeing the world.

Economic growth has come to shape everyday life. Having colonised the world both physically and psychologically, it now exists in external institutions (e.g. national income statistics and legal expectations of profits for companies), as well as in internal identities (e.g. workaholism and careerism, personal development and life planning). The relationship between agency and structure is dialectical: those who depart from the race for more will risk being marginalised and eventually commanded by the others who have accumulated money and thus power by playing the rules of the growth game. Because the rules of the game are usually set by the winners, the system sustains itself with growth-agents shaping the growth-structure. The other way around, new institutions that are not growth-friendly will be deemed unfit to the mentality

[1] "Thus it constrains them to a career of indefinite expansion, in which they devour continents and oceans, laws, morality and religion, and last of their own souls, in an attempt to attain infinity by the addition to themselves of all that is finite" (Tawney, 1920: 49).

of the inhabitants of growth societies and will therefore be rejected. The distinctive feature of modern societies is not that they aspire to grow their economy, it is that they define growth as progress.

Conclusions for Chapter 1

THE central proposition set forth in this chapter is that economic growth is both a real and an imaginary force. The ideology of growth derives from an economicist worldview that sees the GDP economy as an autonomous creature worthy of respect and obedience. Born at the dawn of the Industrial Revolution in Britain, the phenomenon of economic growth is sustained by a tripartite culture of profit-driven productivism, income-driven consumerism, and GDP-driven growthmanship. One of the consequences of growthism was the creation of a grand narrative of imperatives that ended up shaping both institutions and personal identities. In light of all of this, it is of utmost importance that the focus when discussing the need to change direction should not only be on the reality of growth (i.e. its ecological and social impacts) but also on its symbolism, namely the growth fetishism that is currently hegemonic in both public and private spheres of life.

Chapter 2

Biophysical limits to growth

THE environment has always been the most widely discussed limit to growth. Already in the 1960s, American economist Kenneth Boulding[1] famously argued that there could be no infinite economic growth on a finite planet, provoking a fierce controversy that remains unabated to this day.[2] Can a growing economy be maintained in a finite ecology? This growth-versus-environment debate centres around the potential existence of a conflict between a socioeconomic imperative *for* growth and an ecological imperative *against* it. It opposes techno-optimists who argue that environmental pressures can be decoupled from market activity and others who retort that this decoupling is neither possible in theory nor likely in practice. This chapter is devoted to the latter side of the argument and examines the biophysical factors that limit economic growth. The first section conceptualises the interactions between an economy and its environment; and the second section advances theoretical and empirical arguments that challenge the feasibility of green growth.

[1] As Jackson (2017: 1) documents, Boulding is reported to have made this comment ("anyone who believes that exponential growth can go on forever in a finite world is either a madman or an economist") at a hearing of the US Congress in 1973. However, the idea was already elaborated in a paper titled "The Economics of the Coming Spaceship Earth" presented at the Sixth Resources for the Future Forum on Environmental Quality in a Growing Economic in Washington, D.C. on March 8, 1966.

[2] Quoting Lawrence Summers in 1991, then chief economist of the World Bank, should suffice to show the controversial aspect of the matter within the field of economics: "There are no […] limits to the carrying capacity of the earth that are likely to bind any time in the foreseeable future. There isn't a risk of an apocalypse due to global warming or anything else. The idea that we should put limits on growth because of some natural limit is a profound error and one that, were it ever to prove influential, would have staggering social costs." Also economists Julian Simon (1995): "We have in our hands now – actually, in our libraries – the technology to feed, clothe, and supply energy to an ever-growing population for the next 7 billion years" and William Nordhaus (1973: 548) "resources for automobiles operating on electricity generated by breeder reactors will last approximately 100 million years." "There is absolutely no reason why we can't have persistent growth as far into the future as you can imagine" (Paul Romer interviewed by Snowden and Vane, 1999: 310 cited in Sutter, 2010: 22). "[T]he economy can grow for as long as there is still a sun in the sky (which would give us about another five billion years)" (Liebreich, 2018). Those remind of Jean Baptiste Say, who in his *Traité d'Économie Politique* (1803), wrote that: "Natural riches are inexhaustible, for otherwise we would not obtain them for nothing. Incapable of being either multiplied or exhausted, they are not the concern of economic science." Other example, Jeff Bezos recently admitted that unlimited growth was incompatible with a habitable Earth but then called for an escape into space and the creation of extra-terrestrial colonies (Haskins, 2019).

Conceptualising economy-environment interactions

Pre-analytic vision

The present thesis relies on a pre-analytic vision that sees the economy as a subsystem of the larger finite and nongrowing ecosystem that is the Earth. This ontological statement, used as a starting point in the field of ecological economics, has a number of implications.

First, the economy cannot outgrow its biophysical shell as its scale depends on the energy, matter, and living biomass provided by its environment. An ecological economist would say that the *real economy* (production of goods and services) is embedded within – and therefore limited by – a *real-real economy* of energy and material flows. Nature holds non-negotiable market power and humans can only use whatever nature supplies.

Second, the prosperity of the economy is fundamentally linked to the one of ecology. In the same way that a healthy organ cannot thrive for long in a dying body, an economy will not prosper within a collapsing biosphere (or at least not for long). Economic productivity is inseparable from natural "reproductivity" (Biesecker and Hofmeister, 2010). It follows from this premise that environmental damages, the so-called "externalities" of environmental economists, are not that external after all.

The third implication is that social time cannot escape biophysical time for long. Our perception of a brief and contracted time is based on the finitude of our lifetime and the limitations of our cognitive abilities. But the whole of nature depends on temporal cycles (day and night, seasons, ice ages) and because of the law of entropy, any attempt to run faster than the natural clock will require energy. This energy is consumed at the expense of a future slowdown somewhere else in the system. The time it takes for soil to restore fertility, for fish populations to replenish, or for polluted water to be cleansed, sets a speed limit on human activities.

Fourth, it means that everything material about the economy abides by the laws of physics. For example, gravity makes a coin fall towards the centre of the Earth because it has physical weight and regardless of the fact that it is money. Any social representation attributed to money (which would induce people to pick it up from the ground) can only add itself to the physical reality of the coin. This also applies to the two laws of thermodynamics discovered by Nicolas Léonard Sadi Carnot in 1824: energy is constant in quantity and can thus neither be created nor destroyed but only transformed (law of conservation); and its quality moves inexorably towards a less usable or useful state (law of entropy). Both the first and second laws have their equivalents for matter in the form of the materials balance principle and entropy at the level of the microscopic physical-chemical transformations of matter. Whereas the first set of laws affirms that the biophysical assets of the planet are not growing in quantity, the second confirms that their quality is necessarily degrading with time.

The first law of thermodynamics states that energy can only be converted from one form to another but cannot be created or destroyed. Not only does this means that the only resources available are those made out of what already exists, but also that these, once transformed, cannot be removed from the environment, however undesirable they may be (Mayumi, 2016: 91-92). More disturbingly for economists, in biophysical terms, there is no such thing as "production" but only transformation.

It follows from this law that the so-called "natural capital"[1] is a special type of capital because it cannot be substituted with any other. Economists see *natural capital* as "a stock that yields a flow of goods and services" (Daly and Farley, 2004: ch.2) – e.g. a pond yields a flow of fish, the Earth's geology yields a flow of fossil fuels, and the global climate yields a flow of air purification services.

Natural capital exists in interaction with three other types of capital (all the cited definitions are from Costanza et al., 2012: 18-28): (1) *social* and *cultural* ("the web of interpersonal connections, social networks, cultural heritage, traditional knowledge, trust, and the institutional arrangements, rules, norms, and values that facilitate human interactions and cooperation between people"), (2) *human* ("human beings and their attributes, including physical and mental health, knowledge, and other capacities that enable people to be productive members of society"), and (3) *human-made*, *manufactured*, or *built* capital ("all human artefacts and services that fulfil basic human needs"[2]).

Before going further, I must make a note on language and emphasise how the choice of words we use to talk about nature already pre-determines our relation with it. Take the word "natural capital," for example. In economics, *capital* is not only referring to a quantity of resources, but to their mobilisation in production; capital is anything being used to produce something else that is valuable for humans. By entering the process of production, nature is being treated like other factors of production, similarly assumed to be disposable at the will of humans. Thinking about something as capital thus invites, or rather imposes, a productivist, anthropocentric, and extractivist worldview. In contrast, the Bolivian Law n°300 (2012) describes nature as *la Madre Tierra* (Mother Earth), a linguistic coding that allows for a more caring and respectful attitude towards the environment. Likewise, talking of "nature's contributions to people" (IPBES, 2019) is more tolerant than "ecosystem services."[3]

This critique can be expanded to the term "resource." In their seminal UNEP report on decoupling, Fischer-Kowalski et al. (2011: 1, italics added) define natural resources as "anything that occurs in nature that can be used for *producing something else*." This again carries anthropocentric and productivist connotations. "A resource is something that has no value until it has been made into something else […] to call something a resource means to place it under the authority of production (Sachs, 1999: 50). The same connotation inhabits terms like "raw materials" and "livestock" whose phrasing prepare the ground for a usage of nature in production. According to Sachs (ibid. 81), in doing so, we run the risk of turning nature from a treasure to be preserved (conservation of nature) to a resource whose yield has to be sustained (conservation of growth). Put another way, this is akin to treating the biosphere as "one vast gasoline station" (Heidegger, 1966: 50).

The interaction between human-made capital and natural capital is often described in terms of *weak* and *strong* sustainability. *Weak* sustainability (also called "substitutability

[1] Although it is often believed that David W. Pearce was the first economist to use the expression "natural capital" back in the 1980s, Missemer (2018) traced back the modern understanding of the concept to Alvin S. Johnson's *Introduction to Economics* (1909).

[2] It does not have to be a basic need. Rifles, bear traps, and torture equipment are also considered manufactured capital.

[3] Another example, one that, admittedly, I had never thought of before reading the following passage in Kallis (2019: 67): "Seemingly innocuous language rebranding […] the atmosphere as a 'limited sink' have created a commonsense way of seeing environmental problems in terms of favourable market solutions. The ideological work going on here is evident in the fact that most of us take for granted and reproduce absurd ideas such as the notion that the atmosphere – the sky, that is – is 'a sink' (!)."

paradigm" and "Solow-Hartwick sustainability") refers to the belief that what is made by humans can perfectly substitute what is made by nature, whereas *strong* sustainability (or the "non-substitutability paradigm") is the idea that these two forms of "production" are complementary and therefore not fully interchangeable (Neumayer, 1999).

The weak sustainability paradigm was constructed in two steps.[1] First Solow (1974) re-integrated *resources* (which used to be called *land*) as an input into the neoclassical production function while assuming its substitutability with human-made capital – "If it is very easy to substitute other factors for natural resources […] the world can, in effect, get along without natural resources" (ibid. 11). Then Hartwick (1977: 972) proposed the now-called "Hartwick rule": "invest all profits or rents from exhaustible resources in reproducible capital such as machines" – further explored by Solow (1986).[2]

As one of the first proponents of strong sustainability, Daly (1996) posits that those two forms of capital are fundamentally complements and only marginally substitutes. Any human-made artefact, Daly argues, is necessarily made out of natural resources such as materials and energy and so therefore cannot be a true substitute to it. In fact, production is only an intermediary process by which we transform raw materials into goods and services. "One cannot build the same wooden house with half the timber no matter how many saws and carpenters one tries to substitute" (Daly, 1996: 76).[3] As noted by Daly (1977: 7), to be precise, one should not even speak of "production" and "consumption" since humans can neither produce nor destroy matter and energy (law of conservation and materials balance principle) but only transform them from one state to another. From a thermodynamic perspective, what we commonly refer to as production is "dissipative rather than generative" (Hornborg, 2001: 14).[4]

The second law of thermodynamics means that natural capital cannot be dissipated forever because the quality of all material and energy in an isolated system moves inexorably towards a less ordered state. Entropy is a measure of the energy degradation that occurs through time; an increase in a system's entropy means that there is a smaller quantity of highly ordered or free energy – also called "exergy" (Rant, 1956) – that is available to allow further ordering work in the system (i.e. change from simple to complex). Following the definition of Lambert (2002 cited in Mayumi, 2016: 90), energy of any type disperses from a high localisation and

[1] With the luxury of more space, I would have added Harold Hotelling's *The Economics of Exhaustible Resources* (1931), the seminal article at the origin of the so-called "Hotelling's rule," which dictates that the price of a non-renewable resource should increase as to account for its scarcity.

[2] Hayek (1960: 373-74) provides a perfect example of assuming weak sustainability: "Such resources share with most of the capital of society the property of being exhaustible, and if we want to maintain or increase our income, we must be able to replace each resource that is being used up with a new one that will make at least an equal contribution to future income. This does not mean, however, that it should be preserved in kind or replaced by another of the same kind, or even that the total stock of natural resources should be kept intact. […] any natural resource represents just one item of our total endowment of exhaustible resources, and our problem is not to preserve this stock in any particular form, but always to maintain it in a form that will make the most desirable contribution to total income. The existence of a particular natural resource merely means that, while it lasts, its temporary contribution to our income will help us to create new ones which will similarly assist us in the future."

[3] This principle is referred to as Liebig's Law or the Law of the Minimum. It states that the growth of an organism is limited not by total resources available but by the single scarcest necessary resource (timber in Daly's example). The island of Nauru learned this lesson the hard way by extracting the totality of its phosphate before realising the often quoted statement of that Native American chieftain that "you can't eat money" (for more about Nauru, see Gowdy and McDaniel, 1999).

[4] "From a physical perspective, in other words, production is destruction. The creation of consumer value or utility is simultaneously the creation of entropy. Finished products must be priced higher than the inputs – labor, fuels, and raw materials – but inexorably represent less available energy" (Hornborg, 2016: 26).

spreads out if not constrained; entropy is a measure of that dispersion.[1] It follows that although energy is conserved (first law), it is nevertheless degraded by its use and thus cannot be returned to its original state and used again in the same way. The second law is like a law of diminishing natural returns (Jackson, 1996: 11): the more energy is used, the less energy is available to be used. "Anyone who has tried to reassemble a jigsaw puzzle from its scattered parts has experienced this law of nature" (Commoner, 1971: 121-22) – life and the universe as a whole theoretically tends towards thermodynamics equilibrium, that is "a point of chaos defined by an absolute absence of order or patterning of any kind" (Quilley, 2011: 71).

If I burn this dissertation, for example, oxygen from the air will combine with the carbon and hydrogen contained in the paper and turn some of it into carbon dioxide and water vapour that will waft away with carbon particulates in the smoke. Although in theory, this chemical change could be undone by reversing every microscopic change involved, this would require some external energy, which would then also deteriorate in the process. Otherwise, the smoke and ashes alone will not spontaneously regenerate themselves into paper. To quote Daly (1977: 16) once more: "The high-entropy output cannot be directly used again as an input for the same reason that organisms cannot eat their own excrement." The only reasons why life on Earth has been able to evolve and complexify against the law of entropy is because of a constant influx of solar radiation feeding into the closed Earth system in combination with an outflow of low-grade heat energy that emanates towards outer space.[2] Life on Earth, including humanity, has always been climbing up "the down escalator of entropy" (Christian, 2005).

Nicholas Georgescu-Roegen (1906-1994) was a Romanian-American mathematician and economist and the first scholar to theorise on the premise that economic activity was fundamentally restricted by the law of entropy. His main idea, exposed in *The Entropy Law and the Economic Process* (1971), was that economic organisation is only a continuation of biological organisation. The economy is a *bioeconomy*.

The tools[3] we use do not free humans from the laws of nature. Because the entropy law in thermodynamics is the basis of the "economy of life" at all levels (a mosquito, an individual, a group of people, or the human species), economic practices are also entropic, which means they neither create nor consume matter or energy but only transform it from low into high entropy. What goes into the economic system are valuable[4] natural resources (low entropy or free energy-matter, defined as the energy available to produce mechanical work), and what goes out is waste (high entropy or bound energy-matter, or the energy that can no longer be used for

[1] To understand entropy as a de-ordering of energy and matter, we can think of a library as a closed system. The transition from a system characterised by low entropy to one characterised by high entropy is like visiting the library before and after a tornado. Before, the books are neatly ordered by disciplines and authors, and are all displayed so that we can read their titles without having to physically move them. Once the tornado hits the library, all of this structure disappears. The quantity of energy and matter is the same as before, but its quality has changed. It is now arduous to locate a specific book in the chaotic piles of books scattered across the floor. Nothing has changed in the system but its level of order (its entropy), which went from order (low entropy) to disorder (high entropy).

[2] Soddy (1933: 30) puts it beautifully: "The flamboyant era through which we have been passing is due not to our own merits, but to our having inherited accumulations of solar energy from the carboniferous era, so that life for once has been able to live beyond its income."

[3] Following Alfred Lotka's (1956) division, Georgescu-Roegen (1971) differentiates between "exosomatic instruments" (the body parts given to each individual organism at birth) and "endosomatic instruments" (tools outside the human body).

[4] To avoid misunderstanding. The term "valuable" is here understood in a physical sense, meaning that such energy carries a significantly higher potential to produce mechanical work than other types of energy. While space does not permit a thorough treatment of the role of entropy in the formation of economic value, I can safely reject the view that considers objective features of a commodity as determinants of its economic value.

such work). To keep functioning, any biological system must import more order than it exports, which means that any increase in complexity carries a "thermodynamics price tag" (Kish and Quilley, 2017: 311). As explained by Schrödinger in his book *What is life?* (1967), living systems self-organise against entropy; or said differently, self-organised systems import *negative entropy* or *negentropy* (high-quality or high-order energy) from the environment they operate in and dispose low-quality, low-order waste back into it. From an ecological economics perspective, the economy is one such *dissipative structure*, one whose existence depends on these linear input and output relations with its outer environment.

For Georgescu-Roegen, the law of entropy is the fundamental root of economic scarcity. There really is no such thing as a free lunch: the "cost" of any economic or biological change is always higher than the product. The economic process is, in other words, always in "entropic deficit" at the scale of the total system. "Production represents a deficit in entropy terms: it increases total entropy by a greater amount than which would result from the automatic shuffling in the absence of any productive activity" (Georgescu-Roegen, 1971: 279).

Entropy also means that material transformations are irreversible in time. Contra the Newtonian understanding of nature as a mechanical device that could in theory be run forward or backward, the law of entropy states that a closed system can only return to a previous state if it imports free energy from outside. This seemingly abstract insight matters. It means material conditions are at the centre of an intra- and inter-generational social conflict. Because entropy is irreversible, every piece of low entropy energy-matter that is consumed today is one that will not be available for future generations: "every Cadillac produced at any time means fewer lives in the future" (Georgescu-Roegen, 1971: 304).

The triple "S" of ecological economics: sources, sinks, and sustainability

Ecological economists study the interaction between the economy and the environment by applying the concepts of *sources* and *sinks*. The environmental dimension of economic growth is largely determined by two factors linked to economic activities: the amount of inputs extracted from the environment (*sources*) and the amount of output released into it (*sinks*).[1]

Following Georgescu-Roegen (1971), it is common to further differentiate between *stocks* and *funds*, and *flows* and *services*. A *stock* is transformed by its use and the rate of use is called a *flow* (e.g. a forest is a *stock* of wood, trees being cut down would constitute an *out-flow* out of the forest, and trees being planted an *in-flow*).[2] A *fund*, on the other hand, delivers *services* at a given rate over time without the resource being physically transformed in the process (e.g. a forest is a *fund* of ecosystem *services* such as carbon sequestration).

Just like the human body requires nutrition and produces waste, the economy can be seen as a metabolic super-organism. An organism that requires energy and raw materials as inputs for production and consumption and generates all kind of waste materials as outputs. Herman Daly calls this flow "throughput," or "the flow beginning with raw material inputs, followed by their conversion into commodities, and finally into waste outputs" (Daly, 1996:

[1] Here, political ecologists may object the source-and-sink view of the world on the basis that it assumes that "nature" and "society" are discrete domains. While an extended discussion of this ontological question is beyond the scope of the thesis, I consider the concepts of *sources* and *sinks* useful to argue that the economy is embedded into nature.
[2] It has become common to further differentiate between *primary flows* (out of human control) and *secondary flows* (occuring within society).

28). The human economy is constantly traversed by flows of materials and energy that originate from sources and end up as waste and pollutants in sinks – it is a social metabolism (Fischer-Kowalski, 1998).[1] A failure at either end can act, not only as a limit to growth, but also as a threat to the maintaining of core social functions: extracting resources beyond regenerative capacity leads to resource depletion (a *stock-and-flow* problem like the collapse of a fishery) and generating more waste or pollution[2] than can be absorbed by the environment destabilises ecosystems (a *fund-and-service* problem like climate change).

The main insight from ecological economics is that all of the materials and energy used by economies come from nature and is disposed as waste in nature. Because everything is connected to everything else, there is no such thing as "away" on Earth. It follows logically that an abstract definition of environmental sustainability is that the economy's *throughput* ought to remain within the regenerative capacities of renewable natural resources (flow-limited), the stocks of non-renewable resources[3] (stock-limited), and the assimilative capacities of natural sinks (flow-limited) (Daly, 1973).

Ecological sustainability is thus a matter of scale. An economy can either be unsustainable, if its throughput overwhelms biophysical sources and sinks, or sustainable, if it does not do so. Put another way, ecological sustainability requires that "the process of maintenance and reproduction of the components of the technosphere should not interfere too much with the processes of maintenance and reproduction of the components of the biosphere" (Giampietro, 2019: 149). It should be noted that this sustainability definition is solely environmental; it is only concerned with biophysical maintenance over time and does not address social health. Although sustainability ought to be understood as being about much more than 'only' the environment, it seems evident that living within the means of nature is a minimum, non-negotiable condition for any kind of long-lasting prosperity.

The environmental sustainability of an economy can be assessed by comparing its ecological footprint[4] with its biocapacity. The ecological footprint is a resource and impact accounting method that estimates the quantity of sources and sinks (in global hectares) that are required for the metabolic functioning of a specific human community (Wackernagel and Rees, 1996). Whereas the ecological footprint is a measure of humans' demand on nature, the biocapacity is a measure of nature's supply for humans. Biocapacity is then a measure of the theoretical maximum supply of natural resources and ecological services that can be provided by a specific area. Those two indicators enable the comparison of the biological capacity of the environment to supply ecological amenities with the demand placed by human communities on them (both are measured with a common unit, the global hectare, which represents the average productivity of all biologically productive areas on earth in a given year).

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[1] "Social metabolism refers to the processes of material and energy appropriation, transformation, discharge, and disposal within societies, necessary for their biophysical as well as socio-cultural reproduction" (Scheidel and Schaffartzik, 2019).

[2] In the context of this dissertation, I treat "pollution" as an anthropocentric concept; pollution as an unnatural displacement of materials, meaning it bears negative consequences and would have not occurred without human intervention.

[3] For Daly (1996: chap 4), non-renewable resources can only be divested: "the question is not how to invest, but how to best liquidate the inventory and what to do with the net wealth realised from that liquidation." Daly (1972) proposes a rule of quasi-sustainability, namely depleting those resources at a rate equal to the development of renewable substitutes.

[4] Some authors have pointed out the limits of this indicator (for a summary of that discussion, see Galli et al., 2016). Although imperfect, I still find the ecological footprint ontologically valuable for that it helps to think of human activities as embedded in their natural environment – even though precise measurements of that embeddedness may require more sophisticated indicators, as convincingly argued by Giampietro and Saltelli (2014).

When it comes to renewable resources, environmental sustainability can be operationally defined as a situation where the footprint of a community does not exceed the biocapacity of its supporting ecosystems, that is, when the ratio of required resources to available resources is below one.[1] Any community with an ecological footprint higher than its biocapacity is in a state of *ecological deficit* (or overshoot) while a community in the opposite situation would find itself in a state of *ecological surplus* (the terms are from Niccolucci et al., 2007: 668-69). Whereas a state of ecological surplus can last indefinitely, a situation of overshoot can only be maintained temporarily during the depletion and degradation of the stocks of natural resources and sinks (Victor, 2008: 96). Put another way: overusing a renewable resource makes it non-renewable in the long term.

The global ecological footprint per capita exceeded global biocapacity around 1978. As of 2017, humans were using 170% of the resources that can be sustainably generated in one year (Global Footprint Network, 2017). Since 1971 and every year, an "Earth Overshoot Day" is calculated by the *Global Footprint Network* who divides the planet's biocapacity for the year by humanity's ecological footprint for that same year and multiplies by the number of days in the year. In 2017, Earth Overshoot Day occurred on August 2nd, which means that in only eight months, humanity used more from nature than the planet can renew in a full year (the date has been occurring about a month earlier every decade since its occurrence in late December during the year 1971). Starting on August 3rd and onwards, all use of ecological resources and services was environmentally unsustainable.[2]

Economy and ecology are fundamentally entangled. All lifeforms abide to the law of biology and all matter abides to the laws of physics; humans and the way they organise activities of provision is no exception. Looking at the economy as embedded in nature means accounting for the energy and matter that it uses as inputs (sources) and the pollution that it expulses back into the environment (sinks). In this view, the scale of an economy is sustainable if its throughput remains within the regenerative capacities of the ecosystems supporting it.

Source limits and sink limits

This second section is concerned with the extent to which biophysical sources and sinks restrain the production of commodities. For convenience, the overview of these possible limits is separated into two main categories: *sources* refer to the supply of raw materials and energy, and *sinks* to nature's ability to absorb waste after human use and its associated effects on ecosystems. (Although it is convenient for expositional purposes to distinguish among these two categories, one should not overlook the fact that they are in reality intimately connected.)

[1] This definition can only be applied to renewable resources because the use of *any* quantity of non-renewable resources is already, by definition, above biocapacity.

[2] The use of the planet sources and sinks is unequally distributed. Looking at 2017 data from the Global Footprint Network, the Earth Overshoot Day for countries like Luxembourg (February 17th), Qatar (February 19th), the US (March 14th) or France (May 3rd) is quite distant from the ones of Moldova (December 25th), South Sudan (December 28th), or Honduras (December 31st).

Source limits

The idea of a natural resource limit to growth has a long history in economic thought going back to 18th century France. The Physiocrats[1] were a group of French thinkers revolving around François Quesnay (1694-1774). The word "physiocracy" was coined in 1767 by Pierre Samuel du Pont de Nemours as a contraction of *physis* (nature in Greek) and *kratos* (power, strength) to mean the "government of nature."

Physiocracy is characterised by two main ideas. First, society is a creation of nature like the solar system or the human body and is therefore governed by natural laws. As a doctor, Quesnay was one of the first to import notions from the natural sciences into political economy (i.e. money circulating like blood in the body, the malfunctioning of the economy as a disease or crisis). Second, the only source of value is land. In Quesnay's *Tableaux économiques* (1758), the "productive" class (agricultural labourers) exploit the land to provide raw materials for the "sterile" class (artisans and merchants) to manufacture goods while paying a rent to the "proprietary" class (landlords). Because only agriculture is productive (i.e. generates a profit), if land ceases to provide resources, then the entire economy comes to a halt – land is, in that sense, a limit to growth.[2]

Although the Physiocrats reached a similar conclusion before, it is Thomas Robert Malthus (1766-1834) who is most frequently heralded as the first thinker to elaborate a theory of resource limits to growth. As explained in his first and most famous essay (*An essay on the principle of population*[3] in 1798), an increase in population will exceed the agricultural capacity of the land in the long run if people reproduce in an exponential manner (i.e. geometrically, 1-2-4-8) while food production only grows linearly (i.e. arithmetically, 1-2-3).[4]

From this thesis resulted a gloomy conclusion: it was of no use to try to eradicate poverty since any additional production would mechanically enlarge population instead of increasing the living standards of the already living.[5] In fact, any policy improving living conditions would automatically be followed by a faster rate of population growth (because better health means lower mortality rates). The heightened demand would cause food prices to rise and thus ultimately diminish the standards of living of the great mass of workers back to simple subsistence levels. Malthus's principle of population meant that population growth was fundamentally limited by agricultural production, one of the first and most fundamental biophysical limits to the expansion of human activities.

Whereas the Physiocrats and Malthus focused on food, the British economist William Stanley Jevons (1835-1882) was the first to see fuel as a source limit to growth. Although

[1] Physiocracy was a short-lived school of thought, existing from 1757 to the end of the 1760s, and included thinkers such as Pierre Samuel du Pont de Nemours, Nicolas Baudeau, Louis Paul Abeille, Pierre-Paul Lemercier de la Rivière.

[2] It should be noted that although it is possible today to attribute some limits to growth thinking to the Physiocrats, it is not an idea which they entertained back then. Quesnay's economic table does not describe growth but merely a stationary reproduction, and the Physiocrats in general believed in the boundless generosity of nature.

[3] Malthus's original title was: *An essay on the principle of population, or, A view of its past and present effects on human happiness: with an inquiry into our prospects respecting the future removal or mitigation of the evils with it occasions*.

[4] As Kallis (2019) as shown in meticulous detail in *Limits: Why Malthus Was Wrong and Why Environmentalists Should Care*, for Malthus, it is not nature that is ultimately limited, it is rather humans who cause their own demise by not limiting their sexual activity, which could hardly be imagined to occur without reproduction in the mind of a reverend.

[5] It is this grim logic that inspired the public opinion of the time to designate political economy as the "dismal science" (Carlyle, 1849).

Jevons is best known as one of the pioneers of contemporary neoclassical economic analysis,[1] he also published in 1865 a mainly empirical study dealing with the issue of coal scarcity in Great Britain (*The Coal Question: An Inquiry Concerning the Progress of the Nation, and the Probable Exhaustion of Our Coal-Mines*). One of his argument was that since the industrial growth of Britain was dependent on the intensive exploitation of cheap coal from Wales, the rise in the costs of extraction due to an increasingly difficult access would inflate energy prices with the risk of bringing economic activity to a halt.

> "A farm, however far pushed, will under proper cultivation continue to yield for ever a constant crop. But in a mine there is no reproduction; the produce once pushed to the utmost will soon begin to fail and sink towards zero. So far, then, as our wealth and progress depend on the superior command of coal we must not only cease to progress as before – we must begin a retrograde career" (Jevons, 1865: 201).

For Jevons, the real problem was not the limited quantity of available coal but rather its consumption rate, which as in Malthus for food, was not linear but exponential (Missemer, 2012: 99). While he differentiated between *physical* scarcity (technically exploitable coal) and *economic* scarcity (coal exploitable at reasonable costs), he only concerned himself with the latter treating exhaustion as a purely economic problem (ibid. 99).

As for solutions, Jevons affirmed that neither technology nor substitution of other energy sources could overcome this obstacle for economic development (Clark and Foster, 2001: 94). Concerning technology, he reasoned that better efficiency in using a natural resource such as coal only generate more demand for that resource, and not less as one might expect (this phenomenon that came to be known as the Jevons Paradox will be properly discussed in the next section). As for substitutes, Jevons regarded (as it turned out, mistakenly) wood, hydroelectric power, and petroleum as not being efficient enough to replace coal (Missemer, 2012: 99). At the time, Jevons only saw coal as a source limit because he did not pay attention to the air, land, and water pollution that accompanied the use of coal, his main preoccupation being to maintain economic growth, competitiveness, and the power of Great Britain (Clark and Foster, 2001: 96).

Although the Physiocrats, Malthus, and Jevons are often remembered for having been too alarmist about natural limits, the aggravation of a number of resource depletions in 20th century has thrust their theories into the limelight. As early as 1956, Marion King Hubbert predicted that American oil production would reach a peak in the early 1970s and then start an irreversible decline – an outlook that came to be known as "peak oil" (Campbell, 2005; Deffeyes, 2003 cited in Victor, 2008: 60). A peak is "the maximum possible flow rate of a resource given external constraints" (Kerschner, 2015: 129). This notion can be applied to any non-renewable resource such as phosphorus (Beardsley, 2011), or sand (Kimantas and Reeves, 2015), as well as any over-exploited renewable resource such as fish (Cohen, 2010), tropical timber (Shearman et al., 2012), or fresh water (Palaniappan and Gleick, 2008). Resource peaks are a logical consequence of the non-substitutability of natural capital: once a resource has been extracted and used, it is no longer available, and cannot be replaced. Historically, economic

[1] William Stanley Jevons alongside with Carl Menger (1840-1921) and Léon Walras (1834-1910) introduced marginalism at the end of the 19th century.

growth has relied on the exploitation of non-renewable (e.g. minerals, fossil fuels) and renewable resources (e.g. fisheries, forests, water) and that is why the peak and exhaustion of any of these natural factors of production represents a potential limit to growth.

It should be noted immediately, for this is crucial to what follows, that there is a difference between *relative* and *absolute* scarcity. *Relative* scarcity means that it may still be possible to exploit a resource but that it is relatively (in socioeconomic terms) difficult to do so (e.g. gold is relatively scarce because it is costly to obtain). Scarcity becomes *absolute* when it is impossible to exploit a resource because it is simply inexistent (e.g. any species that becomes extinct can be said to be absolutely scarce because it cannot be made available regardless of the socioeconomic means involved).

In sustainability debates, advocates of market solutions argue that the price of a given resource on a market (one aspect of its *relative* scarcity) adjusts to changing circumstances as to reflect the degree of its availability in nature (its *absolute* scarcity). Their argument runs as follows: when a resource gets scarce, it becomes more expensive, which creates an incentive for firms to find ways to use this resource more efficiently or to seek substitutes.

A debatable theoretical premise behind such a view is that the market price of a resource fully reflects its degree of absolute scarcity with no political distortions whatsoever. A quick look at the recent history of oil prices shows that market prices are often poor indicators of real availability and this because they are influenced by socio-political factors.[1] An additional reason for mistrusting the workings of the market when it comes to natural resources is the fact that sources interact with sinks (e.g. the burning of oil – a source – alters the climate – a sink) in ways that are often unknown, uncertain, and unpredictable. For the market system to properly manage resources, prices would need to incorporate, not only information about the current stock of a resource, but also how this stock would be affected by variations in all the other natural factors to which it is connected. A last cause for concern, besides the fact that some resources do not have known substitutes (e.g. phosphorus), is the fact that technological change is limited in its ability to improve resource efficiency (we shall return to this problem at length in the next section on decoupling).

How to know whether and when a natural resource starts acting as a limit to growth? A first step consists in looking at *stocks* to estimate what quantity of materials are currently available for use. The second step involves looking at *flows* in order to calculate how many more years of current (or increased/decreased) consumption are absolutely (i.e. until exhaustion) or relatively possible (i.e. until it becomes too expensive or socially problematic to exploit). This can be done with a variety of indicators: e.g. total material requirement, resource intensity, or domestic material production.[2]

One simple observation is that the global use of resources is on the rise. At the global level, material use has tripled in the last 40 years (Schandl et al., 2017). Global material extraction has increased by a factor of 12 in between 1900 and 2015, with a steady acceleration

[1] For instance, the Yom Kippur War and the oil embargo of 1973, the Iranian revolution (1979), the Gulf War (1990), and the invasion of Iraq (2003).

[2] The total material requirement (TMR) of an economy is "the sum of the total material input and hidden or indirect material flows" (Adriaanse et al., 1997: 8 cited in Victor, 2008: 55), while resource intensity is the ratio of TMR to GDP, or in other words, the quantity of resources required to produce one unit of GDP. Domestic material production (DMC) measures the mass of materials (in tonnes per year) used by the economy as a whole.

since the beginning of the 21st century (Krausmann, 2018).[1] In the last century, average resource use per capita doubled: a global inhabitant in 2005 required somewhere between 8.5 (Behrens et al., 2007) and 9.2 tons (Krausmann et al., 2009) of resources annually, while a hundred years earlier this number was only 4.6 tons (UNEP, 2011b: 10). The material footprint of the OECD nations as a whole increased by half between 1990 and 2008 in direct relationship with economic size with every 10% rise in GDP being accompanied with a 6% increase in material footprint (Wiedmann et al., 2015).[2]

One example of a source limit is phosphorus. Phosphorus is a finite, non-substitutable, non-renewable, and geographically restricted resource (Chowdhury et al., 2017), which is a critical input in the fertilisers used in the production of food. As of today, the only cost-effective production method to obtain commercial phosphorus fertilisers is to mine rocks with high phosphorus content (phosphorite or phosphate rock), basically those which contain ancient coastal sediments and that have been uplifted to land.

At the current consumption rate, the lifetime of global reserves has been estimated to be around 70-100 years (Fixen, 2009; Smit et al., 2009; Vaccari, 2009; Cordell et al., 2009), 370 years (Cooper et al., 2011), or 300-400 years (Van Kauwenbergh, 2010). Global phosphorus fertiliser usage increased by 2.4% annually between 1995 and 2008 (Lou et al., 2011), and with an expected 9.7 billion people in 2050, global food production is expected to grow by 70% above 2005/2007 levels with a corresponding rise in demand for phosphorus fertilisers, especially taking into account the dietary shifts in rapidly growing economies like China towards more meat and dairy (Chowdhury et al., 2017).

Complicating the matter further, more than 90% of these global reserves are geographically restricted to a few countries (Morocco, China, Algeria, Syria, Finland, South Africa, Russia, Jordan, Egypt, Australia, and the United States), with Morocco alone representing 75% of world reserves (ibid.). This puts the supply of phosphorus at the mercy of socio-political decisions, possibly further limiting its availability for other nations.

Last but not least, phosphorous can become a pollutant. Today the exploitation of phosphorus is linear: a one-way flow from mines to farms to oceans, with the waste estimated at 98% of worldwide mined phosphorus in 2004 (Villalba et al., 2008). The disposal of phosphorus becomes problematic when it impairs fresh water and coastal ecosystems' functions through processes such as alga bloom, hypoxia, and eutrophication, which then deplete fish and other aquatic animals that are used for food (Chowdhury et al., 2017).

The case of phosphorus is a good reminder of how both sources and sinks limits place constraints on production. Here, not only is phosphorus a *source limit* (no more phosphorus *in* = no more food = no more economic growth; or to borrow a phrase from the 19th century Dutch-Italian physiologist and philosopher Jacob Moleschott, "no phosphorus, no thought"), but it is also a *sink limit* (too much phosphorus *out* = aquatic ecosystems' dysfunction = no more food = no more economic growth).

[1] Global material extraction increased by 53% between 2002 and 2015, which means that "roughly one third of all materials that have been extracted since 1900 have been mobilized between 2002 and 2015 only" (Krausmann et al., 2018: 139).

[2] Bithas and Kalimeris (2018) confirm this dependency on natural resources. They calculate that the global per capita consumption of natural resources increased by 78.7% over the last century (1900-2002); this means that a 4.8-fold increase in global income led to an 8.5-fold rise in volume of resource. Considering biomass, fossil energy carriers, ores and industrial minerals, as well as construction minerals, Krausmann et al. (2018) calculate that global material use increased by a factor of 12 over the 1900-2015 period with a marked shift from the dominance of renewable biomass towards mineral materials.

Sink limits

Having looked at sources, I now turn to what becomes of the materials and energy after they have been discharged as "waste" or "pollution" and how this affects the functioning of ecosystems.

The law of conservation and the materials balance principle tell us that there is no such thing as waste/pollution in nature. All the outputs of economies come back to nature to decompose in the soil, dilute in the atmosphere, or dissolve in the oceans. There are, however, limits to the amount of waste that can be stored by an ecosystem (the finite size of a sink) and the magnitude of the waste flows that can be absorbed and cycled over time – the renewable capacity of a sink (Daly and Farley, 2004). Past a certain threshold (or tipping point), the sinks can overload and start to dysfunction, which can then affect the ability of ecosystems to supply a variety of services that are essential, not only for production, but also for well-being. In this sense, production is a matter of quantity: anything can become a pollutant if its flow of discharge overwhelms the ecosystems it affects. Of course, these thresholds are difficult to measure. If source limits are walls impossible to cross, sink limits are rather lines drawn in the sand for safety.

The limit of a sink depends of the "service" it provides. Economists often say that ecosystems provide different types of services:[1] (1) *provisioning* services in the form of resources such as wood and fibre, oil, food and water; (2) *regulation and maintenance* services that keep the ecosystem in good condition such as carbon storage in soil and plants, the regulation of soil nutrients, pest and disease regulation, water conditions, habitat and gene pool protection; and (3) *cultural* services, which are non-material attributes arising from ecosystems that positively affect people's well-being such as opportunities for recreation, educational, aesthetic, and spiritual activities.[2]

To this date, the Global Assessment Report on Biodiversity and Ecosystem Services (IPBES, 2019a) remains the most detailed assessment of the impact of human activity on global ecosystems. Its conclusions are clear: since 1970, 14 out of 18 categories of such services have declined. Natural ecosystems have receded by 47% on average.[3] Pointing to the five drivers of changes in land and sea use, direct exploitation of organisms, climate change, pollution, and invasion of alien species, the report identifies "production and consumption patterns" as the principal cause of these drivers (IPBES, 2019b: 5). Because the economy is embedded in nature,

[1] The *Common International Classification of Ecosystem Services* (CICES) is only one of three frameworks used to study ecosystem services, the two others being *The Economics of Ecosystems and Biodiversity* (TEEB) that started in 2008 and the *Millennium Ecosystem Assessment* (MEA) launched in 2001 and published in 2005. The scope of the argument made in this section does not require elaboration as to the differences between these classifications.

[2] The latest *Global Assessment Report on Biodiversity and Ecosystem Services* (IPBES, 2019) lists 18 "nature's contributions to people": habitat creation and maintenance; pollination and dispersal of seeds; regulation of air quality; regulation of climate; regulation of ocean acidification; regulation of freshwater quantity, location, and timing; regulation of freshwater and coastal water quality; formation, protection and decontamination of soils and sediments; regulation of hazards and extreme events; regulation of detrimental organisms and biological processes; energy; food and feed; materials and assistance; medicinal, biochemical and genetic resources; learning and inspiration; physical and psychological experiences; supporting identities; and maintenance and options.

[3] According to Costanza et al. (2014), the global value of ecosystem services has decreased by an estimated USD 20 trillion/yr between 1997 and 2011, and Sukhdev et al. (2008) project that the loss of ecosystem services and biodiversity under a business-as-usual scenario will cost around 2 to 4.5 trillion US$ each year (7% of GDP per year).

any of those ecosystem services constitute a limit to growth more alarming than the shortage of natural resources exposed above.

Rockström et al. (2009) and Steffen et al. (2015) use the term "planetary boundaries" to describe critical thresholds for nine key Earth System processes that should not be transgressed in order to avoid unacceptable global environmental change.[1] These thresholds delimit the "safe operating space for humanity on Earth" (ibid.). Out of those nine, two are not yet quantified (atmospheric aerosol loading and novel entities[2]), three remain below boundary (stratospheric ozone depletion, freshwater use, and ocean acidification), and four already exceed the proposed limit (climate change, biosphere integrity, biogeochemical flows, and land-system change).[3]

An example of a vital ecosystem service for humans is pollination. As Einstein is reported to have said: "If the bee disappeared off the surface of the globe then man would only have four years of life left. No more bees, no more pollination, no more plants, no more animals, no more man."[4] Indeed, animal pollination plays a critical role as a regulating ecosystem service in nature as 65% of all plant species (including 70% of global agricultural crops, with 35% of them being fully dependent on pollinators) are pollinated by animals such as bees, flies, butterflies, moths, wasps, beetles, thrips, birds, and bats (Klein et al., 2007). The estimated annual value of the current global crop production directly attributable to animal pollination amounts to $235-577 billion (IPBES, 2016: 8). The importance of pollination goes beyond agriculture as wild plants constitute food and shelter for a diversity of living organisms, and pollinators a source of multiple cultural services for human communities.

Pollination is reported to be in decline because of an overall drop in the number of pollinators. Potential suspects include changes in land-use, intensive agricultural management and pesticide use (particularly insecticides), environmental pollution, invasive alien species, pathogens, and climate change (IPBES, 2016: 10). In the same way that the human economy was shaken by the Global Financial Crisis, the natural economy has been experiencing its own "Global Pollination Crisis" (Kluser and Peduzzi, 2007).

A loss of all pollinators would decrease supply of leading crops by 85%, at least (Klein et al., 2007). In the absence of animal pollination, variation in global crop production could push up prices for consumers and reduce profits for producers, resulting in a potential annual net loss of economic value of $160-191 billion worldwide for crop consumers and producers and a further $207-497 billion for producers and consumers in other non-crop markets (IPBES, 2016: 18). The slow disappearance of pollinators is concerning enough as it is, but granted a further expansion of the agricultural capacities on which any economic activity ultimately depends, it could become a more problematic obstacle to, not only economic growth, but more generally to human life on Earth.

[1] In a similar spirit, the norm ISO 14.040 on Life Cycle Assessment methodology provides another classification of environmental impacts in seven categories: acidification; climate change and global heating; ecotoxicity; human toxicity; eutrophication/nutrient enrichment; photochemical ozone formation; and stratospheric ozone depletion.

[2] "new substances, new forms of existing substances, and modified life forms that have the potential for unwanted geophysical and/or biological effects" (Stephen et al., 2015: 736).

[3] Biochemical flows include both phosphorus and nitrogen loadings whereas biosphere includes functional and genetic diversity (with only the latter being quantified).

[4] The origin of this statement is uncertain and may have been the result of a confusion made by columnist Ernest A. Fortin about Charles Darwin, Maurice Maeterlinck, and Albert Einstein (Quote investigator, 2017).

When an economy grows, it gets bigger. Let it be for oil, fossil water, or phosphorus, the story that resources tell is one of a dependence of economies on nature. An increase in their prices or in their physical availability represent a limit to growth because most modern economies are currently heavily reliant on these resources. The story of sinks is similar. In the same way that the resources required for a growing industrial metabolism must *come from somewhere*, the waste and pollution they generate must also *go somewhere*. The situation of sinks and services is even more concerning than the one of resources because they have tipping-points of irreversible damage.

The decoupling controversy

Economies are dependent on nature yes, but does that mean that economic growth is incompatible with ecological sustainability? This debate has two main sides. Proponents of what has been named "green growth" argue that technological progress and structural change will enable a decoupling of natural resources consumption and environmental impacts from economic growth.[1] On the other hand, advocates of "degrowth" or "post-growth" argue that, because an infinite expansion of the economy is fundamentally at odds with a finite biosphere, the reduction of environmental pressures requires a downscaling of production and consumption in wealthiest countries, which is likely to result in a decrease in GDP compared to current levels. On one side, green growth advocates expect *efficiency* to enable more goods and services at a lower environmental cost; on the other, degrowth proponents appeal to *sufficiency*, arguing that less goods and services is the surest road to ecological sustainability.

Until now, green growth has dominated the discussion and most environmental agendas are based upon the expectation of a decoupling of economic growth and environmental pressure. A situation with such high stakes calls for a careful assessment to determine whether the scientific foundations behind the decoupling hypothesis are robust or not. This section is organised in three parts. First I define what decoupling means and specify the different forms that it can take. In the second section, I review the empirical literature on the topic as to assess whether or not there is evidence of decoupling having occurred in the past. Finally I discuss how likely is decoupling to occur in the future.[2]

[1] Today, the green growth narrative dominates most political circles. In 2001, the OECD officially adopted decoupling as a goal, which later came to play a key role in its strategy *Towards Green Growth* (2011). It was then followed by the European Commission who, in its 6th Environment Action Programme (*Environment 2010: Our Future, Our Choice*), announced its objective to "break the old link between economic growth and environmental damage" (EU Commission, 2001: 3). The commitment of "decoupling growth from resource use" was repeated in the EU Roadmap to a Resource-Efficient Europe (European Commission, 2011), and in the United Nations Environment Programme's strategy on green economy (2011a: 18) where green growth was expected to "significantly reduce environmental risks and ecological scarcities." Soon after, the World Bank joined the bandwagon with *Inclusive Green Growth: The Pathway to Sustainable Development* (2012). Since 2012, the 7th Environmental Action Programme guiding the European Commission's environmental policy until 2020 *Living well, within the limits of our planet* (European Commission, 2013) calls for "an absolute decoupling of economic growth and environmental degradation." And in 2015, decoupling became a specific target in the Sustainable Development Goals.

[2] This section of the chapter was recently turned into the report *Decoupling debunked: Arguments and evidence against green growth* published by the European Environmental Bureau in the Summer of 2019. The text that follows has greatly benefited from the comments, additions, and corrections of my co-authors (J. Barth, F. Briens, C. Kerschner, A. Kraus-Polk, A. Kuokkanen, and J.H. Spangenberg).

What is decoupling?

A constructive discussion requires explicit definitions. Let us start by clarifying several terminological and methodological subtleties, having to do with what type of economic and environmental indicators are considered and how they are statistically correlated; at which scale, magnitude, and timing decoupling may or may not occur; as well as for what outcomes in terms of achieving social and environmental targets.

1. Relative and absolute decoupling

Generally speaking, two variables are said coupled if one is driven by the other, making them evolve in proportion (for instance, more of A means more of B); and they decouple when they cease to do so. When coupled, both the driven and driving variables move in step, which means that they evolve over time proportionally. Decoupling refers to a variation over time of the coefficient of proportionality, corresponding to a desynchronization between the two variables tends.

This decoupling can be either *relative* or *absolute* (also called *weak* or *strong*). *Relative decoupling* means that both variables still develop into the same direction but not at the same speed (a lot of more of A means a little more of B) whereas absolute decoupling means that the two variables go in opposite directions (more of A and less of B). Assessing decoupling means estimating the loss of proportionality between one variable towards another (or more precisely the variable trends) over time

Relative decoupling, for example between GDP and carbon emissions, refers to a situation where the emissions per unit of economic output (the coefficient of proportionality) declines but not "fast enough" to compensate for the simultaneous increase in output over the same period, resulting in an overall increase in total emissions. As a result, although the economy is relatively less impactful per unit of GDP compared to what it was before, the absolute volume of emissions has nonetheless increased.

Absolute decoupling is a situation where, to stay with the same example, more GDP coincides with lower emissions. Relative decoupling becomes *absolute* decoupling when the growth rate of the economy is overcompensated by the growth rate of efficiency or productivity having to do with the use of natural resources and the generation of pollutions – a threshold sometime referred to as the "absolute decoupling point" (Akizu-Gardoki et al., 2018). When decoupling is absolute, environmental pressure declines without a corresponding drop in economic activities, or vice versa, economic activities rise without an increase in environmental pressure.

2. The driving variable: Gross Domestic Product

In the decoupling of economic growth from environmental pressures, the first term refers to a measure of market activity, most often Gross Domestic Product (GDP).[1] GDP is a measure of

[1] There exist other ways of quantifying economic activity, such as total working time or aggregate employment. A small minority of decoupling studies focus on more encompassing indicators such as the Human Development Index (Akizu-Gardoki et al., 2018); the Index of Sustainable Economic Welfare (Beça and Santos, 2014); need satisfiers and human well-being (O'Neill et al., 2018). In the section, however, I only focus on economic growth measured as an increase in GDP for that it is measured as such in the great majority of decoupling studies.

the aggregate market value of all the final goods and services produced in a country in a given period of time (often annually), and it is the change of that value that is called economic growth. In our context, it matters to take into consideration GDP evolutions in volume (real GDP).

3. The driven variable: Resources and impacts

Environmental pressures include all the consequences an economy has on nature. Following UNEP (2011b), it is possible to distinguish between *resource use* and *environmental impacts*. *Resource* decoupling is a decoupling of market activity from the volume of resource used (i.e. extracted from the environment), for example thanks to efficiency improvements or better recycling which both allow for less extraction. It means that the same or a larger output in monetary terms can be produced with fewer material inputs. The term "resource" here refers to "natural assets deliberately extracted and modified by human activity for their utility to create economic value" (UNEP, 2011b: 2).[1] Let us further divide the natural resources used for economic activities in four categories: *materials*,[2] *energy*, *water*, and *land* (the latter two defined broadly as to include biodiversity and related ecosystem services). These resources can be measured using different indicators either production-based (e.g. domestic extraction, primary energy supply, land occupation) or consumption-based (e.g. material footprint, energy footprint, water footprint, or ecological footprint).

Impact decoupling refers to a decoupling of GDP from environmental impacts, that is a decrease in environmental harm per unit of economic output. Environmental impacts can take various forms such as waste disturbing marine life or pollutants affecting human and animal health, disturbance of natural cycles (e.g. nitrogen, phosphorus, carbon, and fresh water cycles), or biodiversity loss. There is usually a link between resource use and environmental impacts; for example, extracting and using more fossil fuels (*resource*) generates CO_2 emissions contributing to climate breakdown (*impact*). Although most empirical studies focus on global heating and greenhouse gas emissions, any deleterious effects on the biosphere can be taken into consideration as an environmental variable (e.g. light pollution leading to biodiversity loss, water pollution leading to eutrophication).

In this section, I will refer to *overall* decoupling for cases where decoupling occurs between GDP and all selected indicators, including both resource use and environmental impacts. And I will refer to *partial* decoupling for cases where one or more environmental indicator decouples from GDP while coupling remains or intensifies for other indicators.

4. Scale: Global or local

Decoupling can be discussed taking into consideration different geographical perimeters. *Local* decoupling refers to cases where decoupling is observed between variables relative to a restricted area (e.g. a country or a water basin), while *global* decoupling corresponds to

[1] The way one accounts for resources matters. Including unused extraction of materials (the materials and energy being used, displaced, or damaged in the process of extraction itself) often leads to calculated volumes a few order of magnitude higher than only counting the inputs to the production process itself. In the case of Chile, for example, the physical trade balance in the year 2003 increases from net exports of 1 million tons in terms of direct flows to net exports of 634 million tons if calculated including unused extraction materials (Muñoz et al., 2009).

[2] Materials can be further broken down into more detailed categories such as biomass, fossil energy carriers, ores and industrial minerals, and construction minerals (Fischer-Kowalski et al., 2011: 10).

decoupling between two variables at the planetary scale (e.g. world GDP and world greenhouse gas emissions).[1]

The relevance of using local or global indicators depends on the nature of the environmental pressure considered and on its causes. For instance, to study local issues, such as the eutrophication of the Baltic Sea, for which direct causes are located in a rather well defined geographic area, it makes sense to use local indicators, limited for example to the perimeter of the watershed. However, global issues like climate collapse generally call for global indicators, since greenhouse gases are transboundary pollutants and climate change is a planetary phenomenon.

In a globalised world, the choice of the boundaries considered for the system under study matters. Globalisation and the expansion of international trade has led to a spatial dissociation between places of extraction, production, and consumption, making it more difficult to determine who is responsible for which impacts. In this context, *production-based* (also called *territorial*) indicators, which relate to geographical areas rather than to populations, cannot reflect responsibilities and are as such insufficient. A more comprehensive approach consists in looking at *consumption-based* (also called *footprint*) indicators, in which embodied impacts from production and end-of-life phases of traded goods and services are geographically reallocated to final consumers. Indeed, not accounting for the resources mobilised and for impacts generated abroad may lead to detecting apparent decoupling at a local level for importing countries which translocate impacting activities abroad. Reversely, territorial approaches might underestimate decoupling in the case of exporting countries who host impacting activities intended for the consumption of other nations.

5. Durability: Temporary or permanent

Just like the geographical perimeter, the time period of a decoupling study matters. Indeed, mitigating environmental pressures in a growing economy not only implies achieving absolute decoupling from GDP, but also requires maintaining such a decoupling in time *as long as the economy grows*. Said differently, continuous economic growth requires a *permanent* absolute decoupling between GDP and environmental pressures. Yet, in the same way that economic growth and environmental pressures can *de*couple at one point in time, they can also *re*couple later on. As empirical studies often show, decoupling can as well be temporary, resulting in a further increase of environmental pressures after a temporary relief. In the literature, this situation is depicted by an N-shaped curve and sometimes referred to as *recoupling* or "relinking" (de Bruyn and Opschoor, 1997; Jänicke et al., 1989).

Such pattern can for instance result from a large shift in energy sources. For example, China moving from coal toward oil and gas and the US increasing the portion of natural gas in their energy mix caused a temporary levelling of global emissions in 2015 and 2016 reported by the International Energy Agency. But this decoupling was short-lived: once the shift was completed and the corresponding decoupling potential spent, emissions recoupled with economic growth (+1.6% in 2017 and +2.7% in 2018) (Hickel and Kallis, 2019: 8). Another

[1] One could even go further and differentiate several local levels: *macroeconomic* (for instance taking into account the whole national activity), *sectoral* (a specific sector of the economy), and *microeconomic* (single company, city, or household).

common example of temporary decoupling is the Global Financial Crisis of 2007-2008, which has momentarily pushed environmental pressures down.

From an ecological sustainability perspective, the necessary type of decoupling is one that is *permanent* and not only *temporary*. Indeed, it makes little sense to cut resource use or emissions drastically in the short-term only to fall back on a path of increased biophysical intensity in the longer term. Besides, temporary decoupling only has a marginal effect on environmental pressures resulting from cumulative impacts, an effect which merely boils down to a time lag. Findings from decoupling studies should therefore be put in perspective with the time period considered for what may look like decoupling over a short period (inverted U-shape curve) might look different over a longer period (N-shape curve).

6. Magnitude: Sufficient or insufficient

A 3% rise in GDP with a 2% drop in total greenhouse gas emissions is by definition absolute decoupling, but so is a 3% rise in GDP with a 0.02% drop in emissions. Plain to see that the latter is insufficient if the goal is to mitigate climate change. Our point is the following: the success of a decoupling strategy should be assessed in relation to specific environmental targets, and not in terms of abstract decoupling elasticities as often done in the literature. Once such targets have been defined, one can then speak of decoupling being *insufficient* or *sufficient* in achieving them – e.g. "absolute decoupling within planetary boundaries" for Fedrigo-Fazio et al. (2016).

Furthermore, talking about emission or resource productivity measured in emissions/resource per unit of GDP obscures the fact that most environmental issues are caused by cumulative, absolute impacts from different factors. In reality, not only does this imply that, to be effective, the required decoupling would have to be covering both resource use and impacts, in both dimensions being *absolute*, *global*, and *permanent*, but it would also need to be *sufficiently fast*.

Long before being exhausted, non-renewable resources get scarce and can create conflicts or exacerbate already existing ones. Adaptation is even more difficult in the case of ecosystem overload; once overwhelmed – i.e. if *tipping points* have been passed –, they can collapse or transform into a different kind of system (a forest area becoming savannah, for instance). Both kinds of damage – exhaustion and collapse – are often irreversible on a time-scale relevant for humans. Even though it is difficult to measure, decoupling can be considered *sufficiently fast* if the absolute decoupling point is reached before passing irreversible thresholds of damage such as the nine planetary boundaries identified by Rockström et al. (2009), Steffen et al. (2015) and Steffen et al. (2018).[1]

Climate breakdown provides a good example of a hard deadline for absolute impact decoupling. With a global carbon budget estimated at 580 $GtCO_2$ that is currently being depleted at the pace of 42 $GtCO_2$ per year, this leaves only 12 years at current rates of emissions. Reaching the net zero anthropogenic CO_2 by 2040 necessary to limit global heating to 1.5° which a high level of confidence requires an annual reduction of at least 5% of the current

[1] To be precise, one should say that the environmental pressure occurring after the decoupling point, even though decreasing, still matters. Enough resources or carbon budgets (or any other measure of resource use and impacts) should be left as to be able to afford the descent from the peak while still remaining within thresholds of ecosystem stability.

emissions, i.e. a reduction of 8.2 $GtCO_2$ every year. Following this trajectory, the budget will last 20 years and the emissions will be zero at the end of the period – with 45% decline in global emissions by 2030 as an interim target (IPCC, 2018). In light of this constraint, even the decrease of emissions achieved in the most successful national cases of absolute decoupling are far from being sufficient to keep global heating from passing a critical threshold.

Urgency does not only concern impacts but also resources. The preservation of non-renewable resources is a matter of intra- and intergenerational equity. Each non-renewable resource used in one place is a resource that will not be available in another place, and each non-recyclable resource used today is a resource that will not be available tomorrow. As for renewable ones, the threshold of sustainable consumption is set by the replenishment rates of that resource (e.g. avoiding a fish population being depleted to extinction or the collapse of soil structure). So when UNEP (2014a: 123) concludes their report by affirming that "absolute decoupling of economic growth from resource use is possible," note that it is the magnitude and timing of that decoupling which is at stake more than its mere statistical existence.

7. Equity in the allocation of decoupling efforts

The last dimension comes on top of the previous one and is about the concept of "shared but differentiated responsibilities" that, ever since first agreed at the 1992 United Nations Conference on Environment and Development in Rio, figures in climate agreements. Decoupling needs to be sufficiently *large* in affluent countries in order to free the ecological space necessary for production and consumption in regions where basic needs are unmet.

The fact that there are millions of people in the world who lack access to the means of satisfying their basic needs puts extra pressures on rich nations to reduce environmental pressures *as much as possible* as to give the largest possible leeway to vulnerable communities. If moving the "global poor" to an income level of US$ 3-8 per day will by itself consume 66% of the available 2°C global carbon budget (Hubacek et al., 2017), then it is imperative for affluent nations to let go of the remaining available climate space. Meyer-Ohlendorf et al. (2018) calculate that, if the share of carbon budget is derived from 2050 population numbers as to better account for equity, the current EU target for 2030 would have to almost double, from 40% reduction of emissions to 71%. Indeed, even if the metabolic rates of industrial countries would remain stable at 2000 levels (which would already imply absolute decoupling), the catching up of the rest of the world, using current technology, would in itself quadruple global emissions by 2050 (Fischer-Kowalski et al., 2011: 29), which corresponds to levels considered catastrophic in the latest IPCC report (IPCC, 2018).

And again, in world of limited resources, the timing of the peak impact matters as the "safe operating space" (Steffen et al., 2015) may not be large enough for every nation to peak in a logic of "grow now, clean up later" (Van Alstine and Neumayer, 2010: 57). For example, Storm and Schröder (2018: 20–21) estimate that if China develops along the path of the production-based Environmental Kuznets Curve they find for CO_2 emissions, they would exhaust the entirety of the world carbon budget before even reaching the hypothetical turning point. Decoupling in rich countries can be considered *large enough* if it compensates for the increased ecological footprint of poorer nations while still managing to absolutely and

permanently decouple global economic growth from environmental pressures at a pace that is fast enough to avoid overshooting safe environmental thresholds.[1]

Is decoupling happening?

Is decoupling occurring in reality, and if yes, what kind of decoupling is it? The objective of this section is to assess the validity of the decoupling hypothesis in light of existing empirical research.

But before diving into the empirical literature, it is worth telling the story of how scientists came to talk about decoupling in the first place. In the 1990s, several economists (Grossman and Krueger, 1995, 1991; Panayotou, 1993; Shafik and Bandyopadhyay, 1992) conducted empirical work that led them to believe that economic growth was negatively correlated with environmental pressures. Environmental impacts[2] would first grow but then decline in an inverted bell shaped development that came to be referred to as an *Environmental Kuznets Curve* (EKC).[3] This theory had strong policy implications as it meant that a nation could grow its way out of an ecological crisis.

This hypothesis of what UNEP (2014a: 5) calls a "decoupling through maturation" has inspired a number of studies in the following decades looking for environmental Kuznets curves for a selection of environment variables. Today, such assumption of a naturally-occurring decoupling has lost traction in both scientific and political scenes while it has been recognised that the structural change of economies leading to decoupling is strongly determined by policies (Smith et al., 2010; UNEP, 2014a). The way to study decoupling has thus evolved from a semi-natural phenomenon to something that can be brought into existence via policy intervention.

The empirical literature is vast and my colleagues and I have reviewed it extensively elsewhere (Parrique et al., 2019). While I direct readers to our report *Decoupling debunked: Evidence and arguments against green growth* for details, I will only here summarise its main findings. Our conclusion was that there is no empirical evidence supporting the existence of a decoupling of the type described as necessary in the first section of this part – that is an *absolute*, *global*, *permanent*, and *sufficiently fast* and *large* decoupling of environmental pressures (both resources and impacts) from economic growth. In the end, our search for robust evidence was unsuccessful, coming up only with a handful of methodologically peculiar exceptions, most often of relative decoupling, and if absolute, mainly temporary and restricted in space, only for territorial indicators (that is to say spatially inconsistent), or having to do with specific local, short-term pollutants. In all cases, the reduction in environmental pressures falls short of current environmental policy targets. After such an extensive search, it is safe to say that the type of decoupling acclaimed by green growth advocates is essentially a statistical figment.

Yet, even though the success of the green growth strategy is nowhere to be seen, this lack of empirical support does not allow to completely dismiss the decoupling hypothesis. The adequate decoupling of economic activity and environmental pressures remains theoretically

[1] This is a moral, and not a technical, question. My main point here is that an abstract objective of decoupling is senseless if not connected to concrete environmental targets, which should themselves be based on moral considerations.

[2] Grossman and Krueger (1991) studied air pollutants (sulphur dioxide and other particulates); Shafik and Bandyopadhyay (1992) focused on water pollution, municipal waste, particulates, sulphur dioxide, deforestation, and carbon emissions; and Panayotou (1993) considered an array of similar environmental indicators.

[3] In 1955, Simon Kuznets elaborated the theory that in the process of expanding economic activity, inequality first increased to a maximum and then decreased – thus forming an inverted U-shaped curve.

possible if resource productivity grows sufficiently faster than GDP permanently and globally. This might happen, some argue, by increasing the geographical coverage of emission trading systems (Stiglitz et al., 2017) in combination with phasing subsidies for fossil fuels (Schwanitz et al., 2014), directing investments into sustainable infrastructure (Guivarch and Hallegatte, 2011), and a number of other decoupling policies (Smith et al., 2010; UNEP, 2014a).

What is at dispute is the impact of a number of factors, trends, and phenomena that would enable or prevent such an efficiency-driven decoupling from happening. Putting the decoupling hypothesis in perspective with the potential impact of those factors is the objective of the next part.

Is decoupling likely to happen?

The previous part showed that the type of decoupling that would be needed to effectively and equitably avoid climate breakdown and address other environmental crises is nowhere to be seen. Yet, lack of empirical support does not suffice to fully dismiss the possibility of decoupling, which some argue could well happen in the future with the right set of policy changes. The purpose of this final part is to assess the validity of this position. The central claim is the following: adequate (i.e. absolute, permanent, and sufficient) decoupling is extremely unlikely to happen in the near future. I offer seven reasons in defence of that proposition: (1) rising energy expenditure, (2) rebound effects, (3) problem shifting, (4) the underestimated impact of services, (5) the limited potential of recycling, (6) insufficient and inappropriate technological change, and (7) cost-shifting.

1. Rising energy expenditure

The availability of natural resources does not only depend on their absolute quantity (how much is "out there") but also on their quality and accessibility (how much effort is required to extract them). When extracting a resource, cheaper options are generally used first, which means that most readily available energy and material resources mobilised by the economy have already been exploited.[1]

The extraction of remaining stocks then becomes a more complex, more technology demanding, more socially disruptive hence generally more expensive, more resource- and energy-intensive and polluting process resulting in a rising total environmental degradation per unit of resource extracted. This is the case for low-concentration metal and mineral depots, tar sands, deep off-shore wells, stocks located in polar regions or near densely populated cities like shale gas near Paris. These increasing energetic costs[2] of extraction means that more

[1] The common-sense idea that easiest and cheapest options are generally used first (the proverbial "reaping the low hanging fruits") is referred to in economics as the "law of increasing marginal cost" and, when applied to resources, is sometimes called the "best-first principle." Such a rule of thumbs applies widely and can be easily observed in multiple situations from resource extraction to efficiency gains and pollution abatement.

[2] It should be stressed that there is a difference between the *cost* and the *price* of a natural resource. Let us take energy as an example. Whereas the *price* denotes the quantity of money that a commodified form of energy commands on the market (e.g. 55€ for a barrel of oil, 0.2€ for one kWh of electricity), its *cost* (as used in this section) refers to the real (and not monetary) quantity of energy (e.g. litres of petroleum, cubic metres of gas, calories of food, kilowatt-hours of electricity, kilos of coal or biomass) that must be spent in order to extract one extra unit of energy. Another way to put it is that the *cost* of a natural resource has to do with its extraction and production whereas its *price* has to do with its allocation and consumption.

intermediate resources are necessary to extract the final resources required for the production of the same quantity of goods and services, leading to the opposite of decoupling.

The energy expenditure argument is sometimes counteracted by those insisting that energy only plays a small role in economic activities. And indeed, from a monetary point of view, the energy sector only accounts for a small fraction of total GDP. Yet, this perspective has been challenged by a number of scholars (Ayres and Warr, 2009; Georgescu-Roegen, 1971; Giampietro et al., 2011; Hall and Klitgaard, 2012; Kümmel, 2011). Latest to date, Keen et al. (2019: 41) argue that energy is not a substitute to labour or capital but precisely what enables these factors of production to perform useful work – "labour without energy is a corpse, while capital without energy is a sculpture" (ibid. 41). Here, common sense is perhaps more useful than economics: the average speed of a car (GDP growth) might seem to determine its gasoline consumption (energy use), but no one can reasonably assume that a car could run without it (Fizaine and Court, 2016: 173).

Energy

When it comes to energy resources, the efficiency of extraction can be quantified using the concept of EROI (or EROEI), which stands for Energy Return on Energy Invested. EROI is the ratio of the quantity of energy obtained from a resource to the quantity of energy that must be spent to extract it in the first place.[1] It is a measure of *net energy output*; for instance, a ratio 1:1 for petroleum would mean that it takes a barrel of oil to extract another barrel of oil while a ratio of 10:2 would mean that the energy costs of extracting 10 barrels is two barrels.

This concept allows to differentiate the *cost* and the *surplus* of energy (e.g. an EROI of 50:1 means an energy cost of 2% for an energy surplus of 98%, while one of 5:1 means a cost of 20% for a surplus of 80%). The lower the EROI, the higher the *energy cost* or *energy expenditure*. A declining EROI means that an increasing portion of energy output must be allocated to obtaining energy, which means an increase in resource use and impacts.

Several authors make the empirical claim that high levels of energy expenditure are associated with low economic growth rates, or even that GDP cannot grow over a certain threshold of relative energy expenditure: 5.5% of total GDP for Murphy and Hall (2011) looking at the US between 1970-2007; 8-10% for the US and 9-11% for the broader OECD in Bashmakov (2007); and 11% for Fizaine and Court (2016) looking at the US over the 1850-2012 period. The logic is simple: if energy expenditures exceed these thresholds, it starts to act as a limiting factor on employing labour and capital.

The EROI for fossil fuels is of special interest as it also describes how much greenhouse gas emissions are generated in a fossil fuel based economy to provide one additional unit of fossil energy (ton or barrel) – one could even speak of the *climate cost* of extracting a barrel. While the carbon intensity of that consumption is fixed (e.g. burning one barrel of oil emits around 120 kg of carbon), a decreasing EROI means an increase in emissions per unit of

[1] Hall et al. (2014) differentiate between four types of EROI. "Standard EROI" is the energy output divided by the sum of the direct and indirect energy used to generate that output. "Point of Use EROI" adds the costs associated with refining and transporting the fuel. "Extended EROI" considers the energy required not only to get but also to use a unit of energy. And finally, "societal EROI" is "the overall EROI that might be derived for all of a nation's or society's fuels by summing all gains from fuels and all costs of obtaining them."

primary energy used (the carbon emissions corresponding to the increasing extra energy burnt to extract that barrel adds up to the 120 kg).

According to some estimations, the EROI for the global production of oil and gas increased from 23:1 in 1992 to 33:1 in 1999 and declined to about 18:1 in 2005, giving credence to the theory that the efficiency gained by technical improvements is being trumped over time by depletion (Hall et al., 2014). Certain authors such as Morgan (2016) now speak of an "energy sprawl" to describe the necessary expansion of the infrastructure required to access energy and the growing proportion of GDP that it will absorb. Accounting for both fossil and renewable energy sources, Capellán-Pérez et al. (2018) find that the EROI of the global energy system went from 7:1 in 1995 to 6:1 in 2018.

A prime example of this process of increasing marginal costs concerns the extraction of different types of unconventional oils. Tar sands and oil shale deliver a mean EROI of 4:1 and 7:1 (Lambert et al., 2014). Shale gas is often acclaimed as an abundant alternative to oil, especially in the United States (Moeller and Murphy, 2016), but not only is drilling shale wells relatively more expensive in both energetic and financial terms, but the rates of decline in production tend to be significantly faster than traditional oil wells (Morgan, 2016: 63).

Another example is coal. Putting pollution issues to the side for a moment, global reserves of coal suggests that, in terms of volume, coal is still relatively abundant. Yet, not all forms of coal are equal in quality. Anthracite, which is the richest coal in terms of energy content, is increasingly scarce, pushing coal companies to extract bituminous and sub-bituminous coals of lesser energy density (Kerr, 2009; Morgan, 2016; Schindler and Zittel, 2007).

One could argue that green growth would only run on renewable energies and so that the EROI of fossil fuels is irrelevant. Even though we will shortly argue that it is not, let us assume for a moment that a complete replacement of fossil fuel by renewables is possible materially (finding enough minerals and land to build the energy infrastructure) and socioeconomically (having renewable energies finding social acceptance and investment resources to completely replace fossil ones). Even then, according to Murphy and Hall (2011), the EROI of renewable energies (below 20:1) is still significantly lower compared to the high EROIs during the early days of fossil fuels (Hall et al., 2014).

Capellán-Pérez et al. (2018) simulate what would happen to average EROI by 2050 should renewable energy sources increase from 15% to 30% (1st scenario) and from 15% to 50% (2nd scenario). In the first scenario, average EROI drops from currently 6:1 to 5:1; and down to 3:1 in the second scenario. If energy expenditures play an important role in the dynamics of economic growth, this means that renewable energies are fundamentally unable to propel an economy as fast as fossil fuels.

Materials

Similarly, and for the same kind of reasons, the rule of increasing marginal costs or the *best-first principle* applies to material extraction. A series of studies already show how the quality of ores of essential minerals are declining (e.g. Calvo et al., 2016). Lower ore grades mean more overburden and environmental damage.

The average concentration of copper in ore/mined material went from 1.8% in 1930 to 0.5% today (Arnsperger and Bourg, 2017: 87), a situation that is common to other minerals. Lower concentration rates for minerals means that higher volumes of materials need to be mined and displaced in order to extract the same amount of ore, and with it more energy. In the first UNEP decoupling report, Fischer-Kowalski et al. (2011b: 25) estimate that, in average, the extraction of materials today requires to displace three times more matter than a century ago.

This is particularly problematic when it comes to green technologies (Calvo et al., 2016; Valero et al., 2018). Indeed, the mineral intensity of renewable energies is higher than the one for fossil fuels – 1kWh of renewable energy requires 10 times more metals than 1kWh of fossil energy (Arnsperger and Bourg, 2017: 87). Add increasing production into this, and the following vicious circle emerges: more energy will be necessary to extract more minerals which are needed to build more energy infrastructure, part of which is needed to provide the additional energy required to extract more minerals and so on and so on. Renewable energies can mitigate some environmental impacts but they cannot trump resource scarcity.

What is often forgotten is that this increasing resource scarcity also translated into an ever further expansion of the so-called *commodity frontier* (Moore, 2000), that is advancements into previously untouched pristine areas, often at the cost of indigenous communities and ecosystems' health. Current examples include the extraction of tar sand in Alberta, Canada, oil in the Peruvian rain forest, or, most famously, in a national park in Ecuador. While these involves fossil fuels, the reach for the minerals required to build renewable energy infrastructure poses similar threat to socio- and biodiversity.

Energy and material are crucial for the functioning of an economy, and even more so for one that is growing. Just like a living organism, an economy requires energy and material not only to grow, but also only to maintain its current size. All available evidence points towards increasing costs of extraction for both energy sources and materials. If economic growth requires *more* energy and material, and it takes increasingly *more* energy and material to extract energy and material, then rising energy expenditure acts as a limit to growth and constitutes a barrier to decoupling. In order to argue that decoupling is possible, one must show how to deal with the increasing marginal cost of energy and material extraction.

2. Rebound effects

Improving resource efficiency is probably the most common argument put forward in defence of decoupling. However, every action that responds to savings in resources is prone to *rebound effects*, that is a difference between the projected and the realised environmental savings from an efficiency improvement.

Such a phenomenon was hinted at already in the 18th century by Stanley Jevons in *The Coal Question* (1865: 140–142): "It is wholly a confusion of ideas to suppose that the economical use of fuel is equivalent to a diminished consumption. […] Whatever, therefore, conduces to increase the efficiency of coal, and to diminish the cost of its use, directly tends to augment the value of the steam-engine, and to enlarge the field of its operations" – hence the rebound effect often qualified as "Jevons Paradox" (Giampietro and Mayumi, 1998; Jevons, 1865).

This idea that efficiency changes would rebound into more consumption gained ground in the field of energy economics in the context of the oil crises of the 1970s, most notably with the work of Khazzoom (1980) and Brookes (1990) – later referred to as the "Khazzoom-Brookes postulate" (Saunders, 1992). After more than 40 years of research, the literature has expanded to encompass a variety of causes and effects.[1] In order to account for overall decoupling, the most relevant concept is the "environmental rebound effect" (originally used by Goedkoop et al., 1999, and then by others such as Murray, 2013; Spielmann et al., 2008; and Takahashi et al., 2004), which goes beyond energy issues to encompass a wider range of environmental concerns.[2]

Several types of rebound effects

Rebound effects come in many shades depending whether efficiency leads to an increase of consumption of the same product or service (*direct rebound effect*), whether freed resources are allocated elsewhere (*indirect rebound effect*), or whether consumption is induced by structural changes in the economy as a whole (*structural rebound effect*). These effects, alone or together, are then either *partial* or *total* depending on the magnitude of their impact on resource use.

First order: direct rebound effects

Direct or 1st order rebound effects refer to cases where the efficiency gain is reinvested as additional consumption of the same product or service. This is especially true for normal goods for which a decrease in the cost of use perceived by users translates into a higher consumption. For instance, driving a more fuel-efficient car more often, faster, or over longer distances; the petrol that was saved in efficiency by the car rebounded into more usage of the car. Direct rebound effects can also occur in production, for example when the acquisition of a more energy-efficient machine motivates additional production (*output effect*).

Second order: indirect rebound effects

Indirect or 2nd order rebound effects refer to cases where resources freed by an efficiency or sufficiency improvement are re-allocated to another type of consumption (*re-spending effect*). For example, driving a more fuel-efficient vehicle (efficiency) or deciding to use it less often (sobriety) could save money (*income effect*), which can then be spent on impactful products or services (e.g. a far-away holiday trip by plane) or invested on problematic financial products (e.g. related to fossil fuel extraction). For producers, profits resulting from productivity gains can be reinvested into expanding production capacity (*re-investment effect*).

What Wallenborn (2018) call "structural rebound effect" is a good example of such indirect rebound.[3] It is structural because it has to do with economic structures such as markets,

[1] Here are a few examples that shows the wide span of the concept: time rebound effects (Jalas, 2002), socio-psychological or mental rebound effect (de Haan et al., 2006; Girod and de Haan, 2009; Santarius and Soland, 2018), and international rebound effects (van den Bergh, 2017).

[2] For a general framework for the study of environmental rebound, see Font Vivanco et al. (2016).

[3] In the words of Jevons's himself writing in the *The Coal Question* (1865): "In fact, there is hardly a single use of fuel in which a little care, ingenuity, or expenditure of capital may not make a considerable saving. But no one must suppose that coal thus saved is spared – it is only saved from one use to be employed in others, and the profits gained soon lead to extended employment in many new forms. The several branches of industry are closely interdependent, and the progress of any one leads to the progress of nearly all" (Jevons, 1865: 136 cited in Missemer, 2012: 99).

ownership, and money. In a globalised economy where money can be used to buy almost anything (one then speaks of *general-purpose money*), all purchasing power is a potential polluting power. Even if euros are spent on green products, and even if the sellers of these products spend these euros in a sustainable way, at some point down the chain, these euros are likely to be used in a polluting manner. Even euros not spent will cause resource consumption and pollution when re-lent by the bank to finance new investments.

The only way to avoid this effect would be to change the structure of the economic system itself (decommodification, localisation, special-purpose monies like complementary currencies, etc.).

Third order: economy-wide rebound effects

Efficiency in resource use can also rebound at the macro level (*economy-wide* or *macroeconomic rebound effect*). For instance, efficiency gains in internal combustion engines have help made private car transportation effective and affordable, and resulted in a wide diffusion of this technology. This generalisation of private car transport has in turn driven the spatial configuration of cities and territories, resulting in extensive spatial configurations which now rely on, and even require, the use of private cars. This wide scale modification of the system of needs now results in a dramatically higher energy consumption from the transport sector. In other words, more fuel-efficient cars reinforce the hegemony of cars at the expense of more sustainable modes of transportation like trains and bikes.

Resource efficiency can also lead to a restructuring of the economy around nature-intensive activities (*composition effect*). For example, abandoned mining activities can be resumed after the development of new efficient techniques makes it economically profitable again, as it is currently the case for gold mining where lower grade ores (including the former overburden) are now reprocessed.

Partial and total rebound

Depending on its magnitude, a rebound effect can result in either an overall decrease (*partial rebound*) or increase in resource use (*total rebound,* also known as *overshoot* or *back-fire*). In the first case, the savings are larger than the extra rebounded consumption (e.g. a heater consumes 50% less and rebounds in being used 1.5 times more, which means there are still 25% net savings). In the case of total rebound, however, the rebounded consumption is larger than the savings and savings are totally offset (e.g. if the money saved by using a car consuming 30% less energy per km is used to pay for a holiday trip by plane where it pays for much more energy than in the case of gasoline which unlike kerosene is heavily taxed).[1]

[1] In the literature, and following Ehrhardt-Martinez and Laitner (2010), what we call *partial* and *total* rebound are often referred to as "typical rebound" and "back-fire." The authors (ibid. 7-77) also add a third category: a "negative rebound" for situations where actual energy savings are higher than expected (e.g. "a family that installs a new energy-efficient hot water heater may be motivated to find other ways to save energy by taking shorter showers, washing clothes in cold water, or by limiting dishwasher use to full loads"; *negative rebound*, better example, direct causality: isolating walls reduces heating demand, making existing heating installations oversized. This, in turn, requires installing new and smaller boilers, which are more efficient, so energy demand sinks again. or on the producer side if the price of a new machine is greater than the saving in operating cost it allows). To avoid confusion, others prefer to speak of a "super-conservation" effects (Saunders, 2005) or "amplifying" and "leverage" effects (Spielmann et al., 2008).

In relation to decoupling, this means that a rebound effect can either slow down the expected rate of decoupling (*partial rebound*) or reverse it altogether (*total rebound*).

Empirical evidence of rebound

Indirect and structural rebound being highly complex, most empirical research focuses on *direct* rebound effects, which are easier to measure. In their review of energy use rebounds, Ackerman and Stanton (2013: 120–121) conclude that evidence for total direct rebound effects is rare: "estimates of 10 to 30 percent seem common […] actual evidence of rebound effects of 100 percent or more appears to be non-existent." Same conclusions for surveys conducted by Greening et al. (2000) and Sorrell (2007) who find a diverse range of rebounds, sometime low like in the case of lighting (up to 15%), moderate like in the case for aviation (19%), or very high like in the case for motorised transport (up to 96%).[1]

Galvin (2014) reports a rebound for household energy conservation in the range of 0-50% for older EU member states between 2000 and 2011 – certain countries, notably Eastern European countries, as well as Finland and Denmark, shows situations of total rebound. Grafton et al. (2018) show that higher use of efficient technology rarely reduces water consumption. Kyba et al. (2017) reports a situation of backfire in the case of LED technology for outdoor lighting. Antal and van den Bergh (2014) estimate the re-spending rebound for saving energy from gasoline to range between 45 and 60% for larges economies such as Russian, China, and India.

Magee and Devezas (2017) examine numerous statistical sources to estimate the use of 69 different materials from 1960 to 2010, arguing that the Jevons paradox applies to just about every substance. Out of their sample, they find only 6 cases of absolute decline. Four of these materials – asbestos, beryllium, mercury, and thallium – have been phased out deliberately by legal restrictions because of toxicity issues. The other two are wool, which has declined without decreasing the global populations of domestic sheep or other wool-producing animals, and tellurium, a byproduct of refining copper whose use in solar panel manufacturing means its overall consumption is likely rising again.

Empirical studies of macroeconomic rebound effects are scarcer than their micro counterparts. In his review of the literature, van den Bergh (2017: 4) concludes that "the majority of economy-wide studies suggest overall rebound is above 50% and possibly much higher." In a survey of computable general equilibrium studies, Dimitropolous (2007) finds three cases of total rebound, three others above 50%, one in the range of 30-50%, and one around 15%. Even though rebound effects of the 2ndor 3rdorder are the most determining ones, these remain the most difficult to study empirically.

The rebound effect argument minimises the plausibility of the decoupling hypothesis. Thus rebound effects must be taken into account while considering decoupling scenarios as they might make rates of resource use more or less sensitive to the introduction of resource-saving technologies and sufficiency-driven behavioural changes. The point is not to argue against those, which may still have positive overall impacts, as long as rebound effects remains limited,

[1] For all figures given, readers should be aware that the methodology used influences the results. For instance, studies using Life Cycle Analysis together with the concept of environmental rebound effect find a higher likelihood of backfire. This is the case for Font Vivanco et al. (2016) looking at electric cars.

especially if anticipated by decision makers and counterbalanced with proactive policies. But it remains very risky to rely exclusively on sectoral and technical improvements. Rather, what is necessary is an in-depth and systemic consideration and anticipation of potential rebound effects in the design of sustainability policies.

3. Problem shifting

An additional argument to be considered alongside rebound effects is that efforts to solve one environmental problem can create new ones and/or exacerbate others. In other words, decoupling of one environmental factor can occur at the expense of the (re-)coupling of another one. As Ward (2017) points out to illustrate this argument, the world decoupled GDP growth from build-up of horse manure in city streets and from whale oil, but only by substituting it by alternative uses of nature. In what follows, we consider the example of climate change mitigation and show how four different sources of energy often considered as solutions for green growth merely change the form that the environmental burden takes, often with unintended spill-over effects.

Example 1: renewable energy

Renewable energy is often depicted as clean and unlimited, but it is far from being free of environmental pressures. Renewable energies and efficiency-enhancing ICT technologies reduce carbon emissions but exacerbate land use (e.g. solar farms and biomass/biofuels), and water conflicts in the case of hydropower (Capellán-Pérez et al., 2017; Havlík et al., 2011; Scheidel and Sorman, 2012; Yang et al., 2012). They increase metal demand and the local conflicts associated with their extraction (Ali, 2014; Chancerel et al., 2015; Kleijn et al., 2011; Vidal et al., 2013), and, in the case of photovoltaic infrastructure, generate environmental pollution and emissions of greenhouse gases (Andersen, 2013; Hernandez et al., 2014; Zehner, 2012). The extraction of rare earth minerals, which are essential for many green technologies including wind mills, causes enormous environmental damage, for example in China (Pitron and Védrine, 2018).

Let us take three more examples among many. The production of batteries for electric cars puts pressure on the extraction of lithium, cobalt, nickel, and manganese (Bednik, 2016: 101; Valero et al., 2018). The expansion of biomass for biofuels can encroach on protected areas and lead to an increase of monocultures, negatively impacting wildlife and its conservation (IPBES, 2019), a good example being deforestation in the Indonesian rainforest for palm-oil plantation (Koh and Wilcove, 2008; Margono et al., 2012). And hydropower produces methane emissions when algae growth is catalysed by the silt trapped by the dam, sometime generating more greenhouse gas emissions than a fossil-fuel-fired plant (Deemer et al., 2016).

Example 2: Nuclear energy

Nuclear energy is a good case in point. Being relatively carbon-neutral,[1] it is considered the principal factor that allowed countries like France, Sweden, United Kingdom and Germany to reduce their energy-related carbon emissions.

Nuclear energy, however, requires the extraction of uranium as fuel as well as titanium, cobalt, tantalum, zirconium, hafnium, indium, silver, selenium, and lithium for construction materials (Sersiron, 2018: 165). A shift to nuclear power means intensifying the coupling of economic activity with various materials, starting with uranium.[2] Mining and transporting these materials is itself a source of environmental pressures, for example in terms of water pollution or biodiversity loss through land change (Conde and Kallis, 2012).

Furthermore, nuclear energy involves a different set of social-ecological hazards linked with the storage of toxic waste as well as the risks of nuclear accidents and nuclear weapon proliferation. In sum: nuclear electrification shifts the coupling from one *impact* (CO_2 emissions from fossil fuel) to other *impacts* (e.g. biodiversity loss, water pollution, and other impacts related to mining and transport, toxic waste) and *resource use* (e.g. uranium scarcity).

Example 3: Natural gas

The switch from coal to natural gas is a good example of shifting problems from one greenhouse gas to another. The World Resource Institute (Aden, 2016) reports a 6% fall in measured US greenhouse gases emissions between 2000 and 2014, which alongside a 28% increase in GDP appears to be a temporary absolute decoupling. This corresponds to a large shift away from coal to natural gas (Feng et al., 2015), which was lauded by public authorities for its ecological benefits.[3]

The problem is that the extraction of natural gas emits methane, a gas roughly 28 times more potent at heat-trapping than CO_2 over a century (IPCC, 2013) which easily escapes into the air before it can be captured in a pipeline. Turner et al. (2016) finds that US methane emissions increased by more than 30% over the 2002-2014 period, which more than cancels the drop in CO_2. Same results for Howarth et al. (2011) who show that if more than 3% of the methane from shale-drilling operations leaked into the atmosphere, this would make shale gas more climate disruptive than coal (the leaks they report are in the range of 3.6 to 7.9%).[4] The problem of methane leakages goes beyond the relatively new phenomenon of shale gas extraction and concern convention gas operations as well, especially the ones with faulty infrastructure.

[1] This remains a matter of controversy as it is difficult to calculate the carbon footprint of the entire life-cycle of a nuclear plant, including indefinite waste storage and potential clean-up operations after accidents.

[2] If only for the case of uranium, currently identified reserves – 7.6 million tonnes commercially recoverable at less than 260 US$/kgU in 2015 (OECD, 2016) –, would only allow 13 years of electricity production at current demand (Brown et al., 2018: 840).

[3] Closing President Trump's speech justifying the withdrawal from the Paris Agreement on June 1st, 2017, Scott Pruitt, then administrator of the Environmental Protection Agency, announced: "before the Paris Accord was ever signed, America had reduced its CO_2 footprint to levels from the early 1990s. In fact, between the years 2000 and 2014, the United States reduced its carbon emissions by 18-plus percent."

[4] This leaking issue is not unique to fracking. It also happens because of ancient infrastructure or in the case of open mines where methane is not actively captured.

What has been shown above for greenhouse gases emissions can be repeated for various other environmental issues. The point is that piecemeal solutions are likely to fall short in addressing a complex, systematic environmental crisis with many interdependent factors at play. Substituting one problem like climate change for another such as biodiversity loss cannot be considered problem solving. In order to argue that decoupling is possible, one must show that a decoupling in one type of environmental pressure will not translate into significantly increasing another type of pressure.

4. The underestimated impact of services

Another hope for the decoupling of growth and environmental pressures lies in the tertiarisation of the economy, that is the shift from extractive industries (agriculture and mining) and manufacturing to services. This was already one of the explanation proposed by the scholars who first described the Environmental Kuznets Curve: "economic growth brings about structural change that shifts the center of gravity of the economy from low-polluting agriculture to high-polluting industry and eventually back to low-polluting services" (Panayotou et al., 2000). Indeed, the service sector as such is much (only considering direct consumption) is less nature intensive than the primary and secondary one, and so if economic growth is mostly driven by the expansion of economic activities where the product is mostly information (e.g. finance, insurance, education), then raw materials and energy consumption as well as environmental harms can be expected to decrease.[1] There are several ways to challenge the possibility for such dematerialisation-through-services.

Relative and absolute tertiarisation

For tertiarisation to contribute to decoupling, it must translate into an absolute, and not only relative, decrease of the volume of industrial activities. A situation where the volume of services grows without a corresponding and simultaneous shrinking of other sectors may indeed be called a "relative" tertiarisation of the economy (the share of industrial activities in the whole economy decreases while its volume still increases), but one that actually results in higher environmental pressures.

With the impacts from the primary and secondary sector constant, a growing tertiary sector adds to the pressures, even though it lowers the average energy intensity per euro. In reality, this situation seems to be the rule rather than the exception.[2] The development of new types of services adds-up to other polluting activities instead of substituting to them: consumers buy a Netflix account *with*, and not *instead*, of a computer, and workers can produce services if they are nourished, transported, and housed, not instead of food, vehicles, and homes. Immaterial products require a material infrastructure. Software requires hardware, a massage parlour requires a heated room, and the platform on which we are writing these very words requires a computer along with all the material equipment and energy necessary to make the Internet run. Services cannot be generated without raw material extraction, energy provision, and infrastructure building, all of which are tightly coupled with environmental pressures. The

[2] Situations where tertiarisation in one country occurs at the expense of (re)industrialisation in another is equally problematic for that it only shifts the environmental burden somewhere else (I will return to that issue in *Reason 7: cost shifting*).

expansion of the service sector can hardly be decoupled because it is part of an economy that grows as an integrated whole.

To the question "do societies with a larger service sector actually dematerialise?" Fix (2019) answers an unequivocal "no." Looking at 217 countries over the 1991-2017 period, he concludes that "the evidence indicates that a service transition does not lead to absolute carbon dematerialisation" (ibid. 4). Similarly, Suh (2006) calculates that in 2004 in the United States, $1 spent on seemingly material-free services requires 25 cents of output from manufacturing, utility, and transportation service sectors. In Denmark, Jespersen (1999) finds that, if one includes all indirect uses of energy, the service sector is actually as energy intense as the manufacturing one. In Spain, Alcántara and Padilla (2009) find the service sector responsible for the lion share of increases in emissions, and this because of its reliance on other, polluting economic activities.

Additionally, workers in the service sectors receive wages, which are used for purchasing material items produced in the manufacturing sectors. If the value of a dematerialised good increases, it means that the purchasing power of those who sell that good increases too (potential re-spending rebound) and that customers may work longer hours in order to afford it (potential re-investment rebound), both having resources implications. So the direct ecological intensity of a company specialised in internet advertisement may be relatively low, but because it provides its employee with high-salary, and additionally because the advertising that it produces fosters the consumption of material or energy intensive products and services such as cars, clothes, technological gadgets, and far-away holiday travels, its indirect ecological intensity is higher than it seems.

From an environmental perspective, not all services are equally desirable and so certain forms of tertiarisation are more desirable than others. Services in one sector do often spill over in more consumption or production in another. Think of financial and marketing activities whose purpose is to boost sales of manufactured products and investment in extractive industries. But also IT services and software development, which allows for-profit enterprises to engage in planned obsolescence, or more generally to faster upgrades in hardware. Or also of those services that rely on material and impactful tools, for example being chair lifted up a ski slope or sky diving off a plane. In contrast, the expansion of yoga clubs, couple therapists, and climbing centres may be less intensive on nature, even though not necessarily so (see *Services have a footprint too* just below).

Not much tertiarisation left to do

Tertiarisation only provides a partial decoupling, and, importantly, one that has already occurred in most OECD countries. In these economies, the share of services in GDP is often already high, which is problematic because it is precisely those countries which have the highest ecological footprint per capita and thus should reduce their impact the most. Countries that have already reached a high degree of tertiarisation (more than 70% of value added is generated in the service sector) retain a small industrial part that is increasingly difficult to compress.

That is because certain sectors simply cannot be dematerialised. This is the case for agriculture, transport, and housing construction, which, are often in the top sectors in terms of emissions and used materials. Cement is a good example. Representing 5% of global

greenhouse gas emissions, its production implies both high levels of process emissions and energy consumption, as well as important amount of increasingly scarce marine sand (Rubenstein, 2012; The Pembina Institute, 2014). Although constructions can substitute other materials to cement, it is difficult to imagine how services could possibly offer adequate substitutes to most industrial production with regards to elementary needs such as food, shelter, or mobility (the service of having a pizza home delivered requires roads, a vehicle, and, not least, a pizza made from material ingredients) Hence, dematerialisation only concerns a limited fraction of the global economy, leaving most of environmental pressures unsolved.

Services have a footprint too

Even if services are less nature-intensive than industrial goods, they still have material requirements and environmental repercussions, and so cannot be expected to fuel a biophysically unbounded process of value creation. In one of their decoupling report, UNEP (2014a: 70) finds a linear relation between expenditure in services and emissions of CO_2 in the direction of more services, more emissions.

Gadrey (2008) points to three factors explaining such correlation. Services require people to travel, either from provider to customer (e.g. mail delivery) or the opposite (e.g. commuting to school) which is made possible by material infrastructure, vehicles, and energy uses. Then they are often anchored in specific material spaces (university building, train station, airport, hospital, offices), whose construction, operation, and maintenance requires materials and energy. They also rely on material tools, which production and use is far from being environmentally-neutral. (ICT, computers, credit card readers, screens and displays, cooling infrastructure in data centres).

In terms of materials, the making of information and communication technology products such as computers, mobile telephones, LED screens, batteries, and solar cells require scarce metals like gallium, indium, cobalt, platinum, in addition to rare minerals. An expansion of services means more transactions using more devices, which require more minerals whose extraction involves environmental impacts. Not only these material requirements imply significant environmental impact (from their mining) but their limited availability and recyclability (Reason 5) also put absolute limits to the growth of material-based services. And even if it is common to observe a decline in the quantity of material products needed to manufacture equipment, these efficiency gain are being trumped by growth in volume of equipment and intensity of usage (Reason 2), often having to do with decreasing life-time due to planned obsolescence (Reason 5).

Services require energy, not only to build the material infrastructure they rely on, but also to simply run. Not only for end-user equipment (laptops, smartphones, routers) but also for the infrastructure, such as data centres and access networks (the wiring and antennas that carry data). Malmodin et al. (2010) calculate that ICT used 3.9% of global electricity in 2007, accounting for 1.3% of global greenhouse gas emissions. Numbers are similar in other studies; for instance, the information and technologies sector produced 2% of global CO_2 emissions in 2007 (830 $MtCO_2e$), half of it accounting for computers and devices and the other half for data centres and telecoms (The Climate Group, 2008). Starting from Malmodin et al.'s (2010) 3.9% of global electricity used by ICT, Van Heddeghem et al. (2014) find that it went up to 4.6% by

2012. Forecasting to 2030, Andrae and Edler (2015) estimate that ICT could consume up to 51% of global electricity, contributing up to 23% of global greenhouse gas emissions.

In itself, the Internet accounts for between 1.5 and 2% of the world's energy consumption (CEET, 2013). Only considering the users' side, the 100 most visited French website require 8.3 GWh or the energy consumption equivalent of 3,077 households (WEA, 2014). Energy consumption resulting from Bitcoin emits an annual 69 $mtCO_2$ and, if more broadly used, could alone produce enough emissions to push warming above 2°C within less than three decades (Mora et al., 2018). Carr (2006) estimates the energy consumption of a Second Life avatar to be around 1,752 kWh per year, which he compares to a world average for humans of 2,436 kWh. Looking at the ecological cost of music in the US, Devine and Brennan (2019) discovers that, even though music has become almost completely digital, it is, in terms of greenhouse gases, more polluting than it has ever been: from 140 million kg in 1977 to 157 in 2000 and between 200 and 350 in 2016.

Because of prevalence of fossil sources in the current energy mix of countries hosting data centres, ICT ends up with a heavy contribution in terms of emissions. The Greenpeace report "How Clean is Your Cloud?" (2012) finds that, for example, 39.4% of the electricity used by Facebook servers is generated by coal plants, while it is 49.7% for Apple. This energy consumption adds up to an already high level of energy demand, exacerbating the environmental impact of the energy sector. And perhaps yes, this climate impact would disappear should all services run on renewable energy, but, assuming that this is even possible (Reason 1), then it would still generate an array of environmental issues (Reason 3).

The so-called "service economy" carries a heavier biophysical backpack than one would think. In the countries with the most urgent mitigation imperatives, the service sector has already been developed to its maximum without the benefits of absolutely decreasing environmental pressures. Services have a footprint, that even though lower than manufactured products, is often only added on top of the environmental pressure pile without much substitution occurring. This is because the service economy can only exist on top of the material economy, not instead of it. Moreover, services such as advertising or financial products do sometime actively foster more polluting production, which results in an overall rise in environmental pressure. Again, we are not arguing against services; on the contrary, it is crucial to replace jobs in resource-intensive sectors with more labour-intensive work. Rather, the point we make is that directly reducing output in the problematic sectors would be more effective than developing activities around them hoping that substitution would somehow occur.

5. Limited potential of recycling

Recycling is a common strategy advocated for decoupling often associated to the idea of a *circular economy*. The idea is that resource decoupling could be possible if all materials required for the production of new products were extracted from the old products that have been thrown away and not from nature. The traditional linear process of production would then be turned into a "closed-loop" (Stahel and Reday-Mulvey, 1981), "zero waste" (Palmer, 2005), "cradle et cradle" (McDonough and Braungart, 2010) economy. Of course, closing the loop between waste and extraction via recycling is a sensible goal, and in theory, one would want

any economy to be as circular as possible. What I am about to argue is that there are limits to this circularity and that these limits are quickly reached in a fast-growing economy.

Recycling itself requires new materials and energy

Perpetual motion machines do not exist in reality. Even though significant gains can be expected from better recycling, the process of recycling itself necessitates energy and, most of the time, new materials, which would then also need to be recycled at some point, requiring the use of additional new material, and this *ad infinitum* (Georgescu-Roegen, e.g. 1971: 132, spoke of an "infinite regress"). This means that because of unescapable laws of nature (here the entropy law), the technically feasible recycling rates are always below the theoretically possible ones. On top of that, the economically justifiable rates are often significantly below what is technically possible for that the marginal cost tends to increase the more a process approaches its theoretical maximum (Reason 1).

Since materials inevitably degrade through time (2nd law of entropy), they can only be recycled into the same products for a limited number of times before they have to be used to produce other products with lower grade requirements. Put another way, sooner or later, any recycling is necessarily downcycling. For instance, plastic bottles can be recycled into plastic fibre for clothing but not back into plastic bottles, and they can finally end up in the noise protection walls along motorways. Paper cellulose fibres can only endure 3 to 6 cycles, for which they need to be mixed with new fibres, and until they become too fragile to be used for paper before being used for cardboard and later as housing isolation and finally as biofuel. Just like for energy, this wearing down of materials sets absolute limits on how circular any economy can be.

Giampietro (2019) proposes another way of thinking about it. In a way, nature already recycles all materials for free, albeit too slowly for current rates of extraction. Arguing that materials and energy will then be recycled within the economy, and not outside of it, comes with an energy price tag. As always, production requires labour, tools, and energy, except that this time, what is being produced is recycling services. Put another way, it is a use of primary energy and material to recycle waste, that is secondary energy and material.

In a world where the economy is relatively small compared to its environment and where the flows of primary energy and materials are larger than the secondary flows, an economy can indeed be circular. Yet, when the scale of the second matches the ones of the first, circularity is compromised. As the author puts it: "what really matters in relation to the potential of recycling is *the size* of the required input flows and the waste flows generated by the economy (technosphere) compared to *the size* of the primary sources and primary sinks made available by ecological processes (biosphere)" (ibid. 149). If economic growth means an increase in size of the economy compared to its environment, then it means that growing economies will sooner or later reach the limits of circularity.

Recycling rates are far from 100%

Of course, one can argue that this entropy argument is irrelevant to a situation where rates of recycling are low and that simply increasing those rates to match the pace of increase of

resource use will be enough to achieve absolute decoupling. But here comes a practical consideration: How likely is it for recycling rates to increase that much?

Let us first assume that recycling does not require extra energy and that all materials can be recycled perfectly. In 2005, 62Gt/yr material have been processed, generating 41Gt of outputs, (19Gt biomass for feed, food and fodder, 12Gt fossil fuels, 4.5Gt mined ores) (UNEP, 2011b). At the same time, only 4Gt of material have been recycled. This is not surprising for that certain materials that are currently used cannot be recycled. For example, fossil fuels and biomass burnt for energy.[1] One fifth of total resources used worldwide are fossil fuels, and almost half are energy carriers. The 98% of fossil fuels that are burnt as a source of energy along with the biomass consumed for feed, food, and fodder cannot be re-used or recycled. Of course, shifting to a 100% renewable energy provision would solve this problem (although perhaps at the cost of creating others, see Reason 2), but we are still far from this situation.

Another problem is that many modern products are too complex to be recycled. Miniaturisation can save material but renders the recovery of materials more difficult – and when this is technically feasible (which is not always the case), more costly and thus less economically interesting. Reuter et al. (2018) study the recyclability of one of the most modular smartphone (Fairphone 2) and find that the best possible recycling scenario would only recover about 30% of the materials. Most problematically, this is also the case for technology to harvest and store renewable energy. UNEP (2011b) estimated that less than 1% of specialty metals are recycled.

A third point is that improvements in recycling are often more than cancelled out by rises in rates of replacement (sometime fuelled by planned obsolescence). Indeed, if rates of recycling are increasing at a slower pace than the reduction of products' average lifetime (i.e. the rate of product replacement), then resource use is set to increase. If the ability to recycle is slower than the will to produce, then virgin resources will have to be used.

There is not enough waste to recycle

This last argument is a matter of basic arithmetic. Just for now, let us still assume that rates of recycling would increase significantly faster than their current trends (while still relaxing the assumption that recycling in itself requires energy and new materials). Yet, even this would in itself not be a guarantee to maintain the growing economy's throughput, since in an economy with increasing resource use, the amount of used material that can be recycled will always be smaller than the material needed for growth. As the economy keeps on expanding, more materials will be required than the ones available from previous periods of time, and so the materials available for recycling within this economy will not suffice. This would be like a snake trying to make a larger skin out of the scraps of its previous, smaller skin.

As shown by Grosse (2010), in an economy where material consumption increases, recycling can only delay resource depletion. The author takes the example of steel, the best-recycled material worldwide. At a current 62% recycling rate and with a yearly rise in consumption of 3.5%, recycling is only delaying depletion by 12 years. If we keep consumption

[1] This is also the case for dispersive uses that divert materials from recycling circuits (e.g. scarce metals used in ink and painting pigments, additives in glass and plastic).

rates steady, even increasing recycling rates to 90% would only add an extra 7 years before depletion.

Arnsperger and Bourg (2017: 73) apply the Grosse (2010) calculation to copper. They assume that the residence time of copper in the economy is of 40 years and that 60% of it can be recycled with current technologies. Out of the 6 million tons of copper used in 1975, this means that 4 millions could have been recovered by 2015. However, consumption of copper has grown to 16 million in the last forty years and so, despite recycling, 12 million tons of virgin copper must still be extracted. In this case, even with assuming an illusory 100% recycling rate, the extraction would have more than doubled during the period.

What exacerbates the limited availability of products to be recycled is the fact that a significant portion of all resources used end up in infrastructure, often for quite some time. De Decker (2018) proposes a simple back-of-the-envelope calculation. In 2005, the world used 62Gt of natural resources: 4Gt for disposable products lasting less than one year and 26Gt in buildings, infrastructure, and consumer goods lasting more than one year. The same year, 9Gt of resources were disposed of during production. The author concludes that the total quantity of materials available for recycling at the start of a second year of production is 13Gt (4Gt of disposable products + 9Gt of surplus resources), of which only a third could be effectively recycled. Plain to see that this number is not only short of what would be needed just to produce the same as in the previous year (62Gt), but even more so for a growing economy.

An infinitely growing circular economy is an arithmetical impossibility, and a contradiction in terms. Recycling is itself limited in its ability to provide resources for an expanding material economy. In the end, our point is not to question the usefulness or relevance of recycling, which could on the contrary play a crucial role in a non-growing economy, but merely to point to the fact that hopes of decoupling based on recycling are misinformed. The reality is that recycling rates are currently low and only slowly increasing, that recycling processes generally still require a significant amount of energy and virgin raw materials, and that it is mathematically impossible for recycling to match rates of replacement in a context of increasing consumption.

6. Insufficient and inappropriate technological change

The debate on the likeliness of future decoupling is, at its very core, a debate on the potential of technological innovation. Decoupling may have not occurred yet, and economic growth may seem biophysically constrained, either because of rising costs of extraction (Reason 1), unforeseen problem shifting (Reason 3), material infrastructure (Reason 4), or limited recycling (Reason 5), but the green growth discourse develops on the assumption that future innovations soon to come would do away with that.

This hypothetical argument has several shortcomings having to do with the purpose, unintended consequences, and pace of technological change. Simply put: technological progress is (1) not targeting the factors of production that matter for ecological sustainability and not leading to the type of innovations that reduce environmental pressures; (2) it is not disruptive enough as it fails to displace other undesirable technologies; and (3) it is not in itself fast enough to enable a decoupling that is absolute, global, permanent, large and fast enough.

Essentially I am not arguing against innovation in itself. The point is that technological innovation is most often ambivalent when it comes to addressing environmental issues, and that the potential of future technological innovations is most likely too limited, and in any case uncertain. Relying on the belief that technological innovation will bring all necessary solutions to environmental problems appears as an extremely risky and unreasonable bet.

Not leading to relevant innovations

Innovation is not in and of itself a good thing for ecological sustainability. The desirable type of innovation is *eco-innovation* or one that results "in a reduction of environmental risk, pollution and other negative impacts of resources use compared to relevant alternatives" (Kemp and Pearson, 2008).

But this is only one type among several. In general, firms have an incentive to innovate so as to economise on the most expensive factors of production in order to maximise profits. Because labour and capital are usually relatively more expensive than natural resources, it is likely that more technological progress will continue to be directed towards labour- and capital-saving innovations, with limited benefits, if any, for resource productivity and a potential rise in absolute impacts due to more production. But decoupling will not occur if technological innovations contribute to saving labour and capital while leaving resource use and environmental degradation unchanged.

Another issue is that technologies do not only solve environmental problems but also tend to create new ones. Assuming that resource productivity becomes a priority over labour and capital productivity, there is still nothing preventing technological innovations from creating more damage. For example, research into processes of extractions can lead to better ways to locate resources (imaging technologies and data analytics), to extract them (horizontal drilling, hydraulic fracturing, and automated drilling operations), and to transport them (Arctic shipping routes). These innovations may target resource use but with a result opposite to the objective of decoupling, that is more extraction. And this is not even considering unintended side-effects, which often accompany the development of new technologies (Grunwald, 2018).

Not disruptive enough

Another problem has to do with the replacement of harmful technologies. Indeed, it is not enough for new technologies to emerge (innovation), they must also come to replace the old ones in a process of "exnovation" (Kimberly, 1981). What is required is a "push and pull strategy" (Rockström et al., 2017): pushing environmentally-friendly technologies into society and pulling harmful ones, like fossil-based infrastructure out of it.

First, in reality, such a process is slow and difficult to trigger. Most polluting infrastructures (power plants, buildings and city structures, transport systems) require large investments, which then creates inertia and lock-in (Antal and van den Bergh, 2014: 3). Let us for instance consider the energy, buildings, and transport sectors, which account for the large majority of world energy consumption and greenhouse gas emissions: initial lifetime for a nuclear or a coal power plant is about 40 years. Buildings can last at least as much. Average lifetime for a car is 12-15 years, and this is about what it takes for an innovation to spread in the vehicle fleet. The wide availability of petrol refuelling stations gives an infrastructural

advantage to petrol-based cars, whereas this is the opposite situation for electric, gas, or hydrogen vehicles that would require different and new supporting infrastructures. Building a highway or a nuclear plant is a commitment to emit for at least as long as these infrastructures will last – Davis and Socolow (2014) speak of "committed emissions."

Energy is a good case in point: using more renewable energy is not the same as using less fossil fuels. The history of energy use is not one of substitutions but rather of successive additions of new sources of energy. As new energy sources are discovered, developed, and deployed, the old sources do not decline; instead, total energy use grows with additional layers on the energy mix cake (see figure below). York (2012) finds that each unit of energy use from non-fossil fuel sources displaced less than one-quarter of a unit of its fossil-fuel counterpart, showing empirical support for the claim that expanding renewable energies is far from enough to curb fossil fuel consumption. The relative part of coal in the global energy mix has been reduced since the advent of petroleum but this occurred in spite of an absolute growth in the use of coal (Krausmann et al., 2009).

Moreover, even if the decision to substitute renewables to all fossil energies was enacted, it is doubtful whether this process can happen fast enough – or even at all, taking material requirements into consideration. In a recent study, the International Renewable Energy Association (IRENA, 2018) estimates that a continued GDP growth compatible with a 2°C warming target would require the addition of 12,200 GW of solar and wind capacity by 2050. This means increasing renewable capacity addition rates by b 2.3 to 4.6 times. Because the study assumes a parallel decrease in energy intensity of 2.8% per year (double the historical rate), and because it aims for the 2°C target (and not the more ambitious 1.5°C), one might consider that the speed of renewable energy development would need to be even higher: for instance, Garrett (2012) calculates that one would need to build one nuclear power plant per day (or equivalent in renewables) in order to decarbonise an energy demand steadily growing at current rates.

This pattern observed with energy whereby new technologies supplement rather than replace existing ones, can be observed in many other sectors as well. Computers have not brought about the paperless office because computers and papers came to complement each other (York, 2006). The rise of synthetic rubber, whose production was established during World War II, did not stop natural rubber production and consumption from increasing steadily throughout the 20th century (Cornish, 2001). Likewise, the explosion of synthetic fibers like polyester and nylon has not displaced natural fiber production. While yearly world production of synthetic fibers has grown from less than 2 Mt in 1950 to above 60 Mt today, the production of natural fibers has more than tripled, from under 10 to roughly 30 Mt, with annual variations due to climactic conditions (The Fiber Year, 2016). Additional consumption largely surpassed substitution.

Not fast enough

In light of the past decades of technological change, the rate of improvement that is needed for high-income, high-footprint economies to absolutely decouple appears disproportionate in contrast to past and present rates of technical progress.

Let us consider the example of carbon emissions. Jackson (2017: 96–100) presents several simple hypothetical decoupling scenarios. The first, baseline scenario runs as follow: extending the trend of global annual per capita economic growth of 1.3% in parallel of 0.8% of expected annual population growth, and with the average annual decline of carbon intensity of 0.6% that has been observed since 1990, would result in carbon emissions growing by 1.5% per year (1.3% + 0.8% – 0.6% = 1.5%). In order to achieve a 90% emission reduction in 2050 compared to current levels with the same GDP and demographic hypotheses, the emission intensity would need to decline at an average rate 8% per year until 2050 – reducing the average carbon content of economic output to 20 gCO_2/\$, that is to say 1/26 of what it is today (497 gCO_2/\$). In comparison, the carbon intensity of the global economy fell from about 760 grams of CO_2 per dollar in 1965 to just under 500 g/CO_2/\$ in 2015, that is to say an annual decline of only 1%.

Many more ambitious scenarios can be imagined,[1] but the message is already clear: relying only on technology to mitigate climate change implies extreme rates of eco-innovation improvements, which current trends are far from matching, and which, to our knowledge, have never been witnessed in the history of our specie. Such an acceleration of technological progress appears highly unlikely, especially when considering the following elements.

First, global carbon intensity improvement has been slowing down since the turn of the century, from an average yearly 1.28% between 1960 and 2000 to 0% between 2000 and 2014 (Hickel and Kallis, 2019: 8–9). Narrowing the scope to high-income OECD countries only, where most innovations are developed, the improvement rate of CO_2 intensity still declines from 1.91% (1970-2000) to 1.61% (2000-2014), which is a long way from matching appropriate levels to curb emissions to a 2°C target, let alone to 1.5°C.

This empirical observation is nothing like a surprise with regards to theory. Technological innovation is limited as a long-term solution to sustainability issues because it itself exhibits diminishing returns (Reason 1). Tracking the number of utility patents per inventor in the United States over the 1970-2005 period, Strumsky et al. (2010) provides evidence that the productivity of invention declines over time, including in the sectors such as solar and wind power as well as information technologies (which are often acclaimed for their innovative potentials). “Early work […] solves questions that are inexpensive but broadly applicable. [Then] questions that are increasingly narrow and intractable. Research grows increasingly complex and costly […]” (ibid. 506). Looking at total factor productivity changes from 1750 to 2015, Bonaiuti (2018) argues that humanity has entered an overall phase of decreasing marginal returns to innovation.

To sum up, technology is no panacea. It is indeed impossible to predict what the future holds in terms of innovations over the long term. Yet the point is that reasons to be sceptical about

[1] Since in the baseline *scenario*, the carbon budget ends up being fully used by 2025, the author calculates in a second scenario the requirement for a 95% reduction holding all else equal. The rate of improvement rises to a 10.4% reduction in carbon intensity year on year, but the carbon budget still runs out by the end of the 2020s. In order to avoid this, a third scenario sets the target year to 2035 instead of 2050, and the necessary speed of technological change becomes 13% for a 90% reduction and 15% for a 95% reduction. In *scenario 4*, low-income countries are expected to match the income of the richer ones (with a 2% expansion in rich countries, it will take a rate of growth of 7.6% in poor ones for both levels of income to converge) Under those conditions, the carbon intensity must be less than 2 gCO_2/\$ to achieve a 95% reduction, almost 1/250 of what it is today. Meeting these targets by 2035 requires a reduction of carbon intensity to average an annual 18%, 100 times faster than the current rate of change.

the potential for technological change to foster the type of decoupling we described as necessary are multiple and serious. First, many technologies that could have severed part of the link between GDP and environmental pressures have been here for several decades now with only minimal effects. More importantly, all innovations do not go in the direction of more ecological sustainability. In a capitalist and growth-oriented economy, innovation is most often strongly dependent on profit-making opportunities, hence partly oriented to this aim. In such a context, most innovations may result in GDP increase, but only few of them might help mitigate environmental pressures. Future technological changes may perhaps bring some additional improvements, provided these are not cancelled by rebound effects (Reason 2), and provided they do not result in problem shifting (Reason 3). Past and current paces of technological evolutions are clearly at odds with the urgent and radical changes that the environmental crises call for, and declining marginal rates of improvement (Reason 1) gives little reason for optimism about the future.

7. Cost shifting

The absolute decoupling shown in early-industrialised nations is only apparent if those countries outsource their biophysically-intensive production somewhere else.

This leakage effect[1] – also sometime called "decoupling through burden shifting" (UNEP, 2014a) or "virtual decoupling" (Moreau and Vuille, 2018) – can be either intentional or conjectural (Peters, 2008). It is intentional or direct when the geographical shift in production results from an obvious choice to relocate to jurisdictions with less stringent environmental regulations – this is referred to as the "pollution heaven hypothesis." It is conjectural or indirect when the effect is attributed to a broader set of factors (e.g. differences in cost of labour, industrial capacity, access to resources, or technology).

Based on this premise, globalisation would cause polluting activities to concentrate in the least regulated – most often low-income countries. Put another way, trade would enable the decoupling of certain regions at the expense of an intensification of environmental pressures elsewhere; or in other words, would allow high-consumption countries to externalise the environmental costs of production to low-consumption countries (one then speak of "embodied" impacts, e.g. embodied emissions, embodied energy).

Empirical evidence of environmental cost shifting

The empirical literature on the embodied environmental pressure in trade is consistent. Reviewing embodied carbon studies, Sato (2014) identified a large and growing volume of embodied carbon emissions in international trade, which accounted in 2006 for around one fourth of global emissions. Looking at 113 countries, Peters et al., (2011) find that the net emission transfers via international trade from low-income to high-income countries has quadrupled between 1990 and 2008.

[1] Because mostly focusing on carbon, this phenomenon is referred to as "carbon leakage" in the empirical literature. The term "leakage" depoliticises the process and so I prefer, following Kapp (1950) and the school of world-system analysis (most notably Hornborg, e.g. 1998), calling it a process of environmental cost shifting whereby richer nations systematically impose the environmental cost of their lifestyle onto poorer countries.

This does not only concern emissions but also resources. In between 1997 and 2001, 16% of the global water footprint was embodied in global trade (Hoekstra and Chapagain, 2007). Raw material embodied in international trade accounted for 30% of the global material consumption increase during the 1990-2010 period, "this effect being due to the growing contribution of less material-efficient economies to global production" (Plank et al., 2018: 19). Likewise, Schandl et al. (2018: 8) report that global material efficiency is declining because of a "large shift of economic activity from very material-efficient economies, such as Japan, the Republic of Korea, and Europe, to the currently much less material-efficient economies of China, India, and Southeast Asia."

For example, a 2011 OECD report claimed that Germany, Canada, Italy, and Japan had achieved an absolute decoupling of greenhouse gases emissions since the 1980. Even though, as pointed out by Bednik (2016: 107) the authors of the report pinpoint that "parts" of this decoupling is due to the exportation of manufacturing activities in emerging and developing countries (OECD, 2011: 15–16). The difference between the gross emissions (measured with a production approach) and net emissions (measured with a consumption approach) was indeed of 27.7% for Germany and 24.7% for Italy in 2004, and as high as 44% for France (Laurent, 2012).

More generally, Davis and Caldeira (2010) estimate the difference between production and consumption emissions to be around 30% in rich countries. When compared to the rates of supposedly absolute decoupling announced in certain studies, the sole factor of cost-shifting is enough to explain the observation.[1]

Why cost shifting happens?

What is observed empirically finds its theoretical explanation in world-system analysis and dependency theory (Amin, 1976; Emmanuel, 1972; Wallerstein, 1974). Building on such tradition, Hornborg (1998: 38) calls this process "ecologically unequal exchange": "a relation of exchange, even when it has been entered voluntarily, can generate a systematic deterioration of one party's resources, independence, and development potential." From this particular perspective, the world can be divided into core countries, semi-periphery countries, and periphery countries, with the former having more power to import wealth from and export illth to others.

Emmanuel (1972) showed how differences in price of labour between nations lead to net transfer of embodied labour from the poorest to the richest. What is relevant for decoupling is that the same mechanism is at work but with material, energy, and pollutions. If it is cheaper to produce what is most polluting elsewhere, and as a consequence there will be a net transfer of environmental burden from the global North to the global South. In decoupling terms, this would mean that *core* countries find themselves in a situation of ecological deficit with their *periphery*.

Decoupling in certain regions of the world would be a "local illusion" (Hornborg, 2016: 115) or "geographical illusion" (Fischer-Kowalski and Amann, 2001) that is enabled by a process of "environmental load displacement" (Muradian et al., 2001) or "cost shifting" (Kapp,

[1] In their study of embodied emissions in British imports, Druckman et al., 2008: 594) conclude that "any progress towards the U.K.'s carbon reduction targets (visible under a production perspective) disappears completely when viewed from a consumption perspective."

1950) from one locality to another or from the present to the future. Following this line of thinking, Hornborg (2001: 33) invites us to "think of the world as a system, in which one country's environmental problems may be the flip side of another country's growth."

This is especially relevant when it comes to technological change. Hornborg (2019: 15) argue that modern technology "should be understood not simply as an index of ingenuity, but as a social strategy of appropriation (of labour and land)" or "a strategy of displacement (of work and environmental loads)." A vacuum-cleaner may save time in cleaning the house, but it does so at the expense of someone having to spend time and energy building the vacuum, and a lot of more people having to extract the materials necessary for making it.

It would be irrelevant to celebrate decoupling in one country if this one is achieved at the expense of coupling in another one, especially if the one worst off is the poorest of the two. There are strong theoretical reasons to believe that the few cases of local decoupling that are celebrated (which remain exceptions) are in fact mostly a displacement of environmental pressures elsewhere. If that is so, it means that ecological sustainability can only be achieved via a downscaling of polluting production. This reason is perhaps the most problematic of all. As long as individuals, firms, and nations stay engaged in cost-competition, there will be incentives to swipe ecological costs under the rug, with the lightening of footprints remaining a mere statistical trick.

Scientific studies and political discussions about decoupling must be precise as to how they define the term, specifying whether it is relative/absolute, global/local, temporary/permanent, and whether it is sufficient to achieve environmental targets in a fair manner. This matters because it is one specific type of decoupling that is most needed: an absolute, global, permanent decoupling of GDP from both resource use and impacts, that is sufficient in magnitude and fair in terms of distribution of burdens and benefits.

Reviewing the empirical decoupling literature searching for evidence of that decoupling, the finding is clear: the decoupling literature is a haystack without a needle. The idea that green growth can effectively address the ongoing environmental crises is insufficiently supported by empirical foundations.

As to whether such decoupling could happen in the future, I have offered a number of reasons to be sceptical: (1) Rising energy expenditures, (2) rebound effects, (3) problem shifting, (4) the underestimated impact of services, (5) the limited potential of recycling in a growing economy, (6) insufficient and inappropriate technological change, and (7) cost shifting. Each of them taken individually casts doubt on the possibility for decoupling and thus the feasibility of "green growth." Considered all together, the decoupling hypothesis appears highly compromised, if not clearly unrealistic.

Conclusions for Chapter 2

ECONOMIES are open systems: they rely on nature to supply materials, living biomass, and energy and to provide for their disposal. The main insight from this chapter is that there can be no never-ending growth in the subsystem of a finite system. The biophysical is the

most un-compromising of all limits to growth because the environmental conditions for civilisation change in a way that is neither gradual nor reversible in a reasonable time scale for humans. This chapter has not sought to predict the exact timing of an eventual ecological collapse but has instead provided conceptual tools as well as empirical evidence to determine whether the global environmental situation is getting better or worse. The result of this exploration points to a trade-off between economic growth and environmental integrity, which at present is going in the direction of "more production and less environment" (Hueting, 1980: 188) – or to put it in a more modern jargon, not "Better Growth Better Climate"[1] but better growth and bitter climate.

Another finding is that decoupling is extremely unlikely if not impossible. The large and fast decoupling that would be necessary to liberate economic growth from its environmental shackles has not yet occurred, and expecting its materialisation in the future is a risky bet with not much to win and much to lose. As Daly (1977: 115) already argued forty years ago, the bet we are facing is similar to Pascal's Wager. Either we hope that somehow these seven problems will solve themselves, continue growth-as-usual and risk a social and environmental collapse; or we acknowledge that decoupling is likely to fail with irreversible consequences on the environment, and follow a precautionary principle approach, moving away from a risky green growth strategy to directly reduce problematic forms of production and consumption.

Ultimately, this is not only a matter of biophysical possibility – just putting an "environmentally determined speed limit on economic growth" (Booth, 2004: 7) –, but rather a matter of acknowledging that economic growth is no longer justifiable from a moral point of view because it deteriorates the environment, which then jeopardises the livelihoods of present and future human and non-human communities. As Jevons (1865) so eloquently put it at the end of *The Coal Question*: "To allow commerce to proceed until the source of civilization is weakened and overturned is like killing the goose to get the golden egg." Because limitless accumulation in a finite world is neither biophysically possible nor ethically justifiable, economic growth is not a feasible long-run objective.

[1] "Better Growth Better Climate" is the title of a 2014 report by The New Climate Economy.

Chapter 3

Socioeconomic limits to growth

THE most pragmatic objection to the growth-based economy is that there is no longer any growth. While in public debate, permanent growth is regarded as normal, the reality in most advanced capitalist economies is that of a secular stagnation.

In the same way that a biophysical factor can act as a limit to growth (no phosphorus or climate stability = no growth), a socioeconomic factor can do exactly the same thing (no innovation or no work = no growth). Remarking a decline in the growth rate over the last 40 years, various authors see this as the start of a new phase of long-term stagnation, as opposed to an intermittent downturn in the customary boom-bust cycle. Understanding that phenomenon is the purpose the first section of this chapter.

Whereas secular stagnationists describe the end of growth as a slow-down akin to a decelerating car, another strand of scholars goes further and posit that the engine has been damaged by growth itself. Stagnation, they argue, is the result of a broader crisis of social reproduction: a deterioration of the social fabric in which the economy is ultimately embedded. Like a snake biting its own tail, the commodity economy has over-exploited to extinction an array of crucial psycho-social potential factors of production, a process that will occupy us in the second section of the chapter.

Secular stagnation

A "secular stagnation" is a situation of no or negligible economic growth.[1] The term gained particular prominence through a November 2013 speech by former US Secretary of Treasury Lawrence Summers at the IMF's Fourteenth Annual Research Conference in Honour of Stanley Fischer. In his speech, Summers argued that the Great Recession of post-2008 was not an anomaly, but rather a return to normal.

The classic formulation of the stagnationist argument, however, dates from one of Alvin Hansen's article in 1934, and more famously from his presidential address to the American

[1] It should be noted right away that the term "secular stagnation" reinforces an economicist worldview that sees the economy as a depoliticised reality that would mechanically stop growing for some purely economic reasons. After having interpreted growth as sacred, the term "secular" may appear quite ironical when attached to growth.

Economic Association in December 1938. His claim was that the US economy had reached economic maturity as evidenced by a decelerating population growth, a lack of territorial expansion opportunities, and a change in the structure of technological progress (from capital-using innovations to capital-saving ones). For Hansen, all these changes would lead to a shortage of private investments, which would then limit the creation and expansion of businesses and in the end slow down growth. With no recovery from the Great Depression in sight, Hansen (1939: 1) declared, as it turned out inaccurately,[1] the end of the "great era of growth and expansion of the nineteenth century" in favour of a new economic order characterised by low growth rates. Influenced by his reading of Keynes (1936), Hansen argued that only aggressive public stimulus could keep growth levels from faltering and so that the State should take on a permanent public investment role.

Almost 80 years later, and once again in the aftermath of an economic crisis, Summers' reference to secular stagnation resuscitated an ancient and controversial question about whether or not the economies of early industrialised countries were characterised by diminishing rates of growth in the long term.[2]

It should first be noted that the term secular stagnation means different things to different people, to the point where it has been described as an "economist's Rorschach Test" (Teulings and Baldwin, 2014). Three distinctions can be made. First, a historical distinction between what I will refer to as the first wave secular stagnation theories following Hansen's work in the 1930s and the second wave secular stagnation theories that followed Summers' statement in 2013. Second, a difference of understanding within mainstream economics following a classic demand versus supply division. And third, a different understanding between mainstream economics and heterodox schools of thought.[3]

Although the second wave of the secular stagnation debate is predominantly taking place among mainstream economists,[4] several heterodox economists of either Keynesian or Marxian descent have seized the opportunity to revive the theories of thinkers such as Hobson (1902), Luxemburg (1913), Sweezy (1942), Steindl (1952), Kalecki (1954, 1971), and Baran and Sweezy (1966) who tried to understand what happens to economic growth over the long run. Whereas orthodoxy and heterodoxy pretty much agrees on the diagnostic (a condition of

[1] As we have seen in Chapter 1, the world economy was just about to embark into the highest rates of economic growth in its history.

[2] Reminding secular stagnationists that Hansen ended up being wrong by not foreseeing the roaring growth rates of the Golden Age, other scholars have contested the secular stagnation hypothesis altogether. A first strand of criticism contends that the Total Factor Productivity method of measuring technological change is incomplete. Others defend that it is only a matter of time for the Third Industrial Revolution to bear its fruits. In that line of thought, Brynjolfsson and McAfee (2014), Mokyr (2014), Eichengreen (2014), and Pratt (2015) respond that the slowdown might only be temporary, as the transformations brought about by information and communication technologies may enable an upward surge in growth in the coming decades. Pagano and Sbracia (2014) suggest that future growth is not to be expected in new technologies, but rather in already existing ones. Similarly, Hamilton et al. (2015a; 2015b cited in Hudecz, 2017: 131) argue that, not only technological change, but also the other headwinds that are dampening economic recovery, are likely to prove temporary. A second strand of criticism points to rising rates of growth in the OECD to argue that the stagnation was not as secular as expected.

[3] The neoclassical paradigm is often understood as being the *orthodoxy* or the *mainstream* when alternative schools of thought such as ecological, feminist, Marxian, Austrian, institutional, and post-Keynesian economics are qualified as *heterodox*. In the dissertation, I use the terms *traditional*, *standard*, *neoclassical*, or *mainstream* economics interchangeably in order to refer to "the economics one finds in university textbooks, discussed in the news media, and referred to in the halls of business and government – it is the mainstream view of academic economics" (Beinhocker, 2007: 24).

[4] Lawrence Summers, Ben Bernanke, John B. Taylor, Paul Krugman, Brad DeLong, and Joseph Stiglitz in blog and article contributions, and Robert Gordon (*Beyond the Rainbow*, 2015), Barry Eichengreen (*Hall of Mirror*, 2015), James K. Galbraith (*The End of Normal*, 2014) as well as all the authors who participated in the collection of articles and debate edited by Coen Teulings and Richard Baldwin, *Secular Stagnation: Facts, Causes and Cures* (2014).

stagnant GDP), it is at the level of causes and consequences that they disagree. In this part, I will treat each of those differences separately starting with the secular stagnation debate occurring within the mainstream.[1]

Mainstream ideas of secular stagnation

The first difference in understandings of secular stagnation has to do with a disagreement within the mainstream about its causes.[2] Simply put, it is an opposition between demand-side hypotheses that centre around the role played by the real interest rate in keeping actual growth below its potential level (GDP is not as high as it could be), and supply-side explanations which suggest that it is rather the level of potential growth itself that has come down (GDP has reached its maximum limit by using all available productive capacity).

Using the difference between *extensive* and *intensive* growth in from Chapter 1, one could say that the demand-side explanations emphasise that the secular stagnation is the consequence of an economic *relaxation* with some productive capacities left idle, whereas the supply-side explanations posit that it is the productive capacities themselves that have *shrunk*, leaving the economy running at full intensity with lower rates of growth.

Demand-side hypotheses

The underlying logic of the demand-side hypothesis centres around the role played by the Wicksellian or natural real interest rate[3] (NRIR) in a loanable funds market where investment and savings are functions of the interest rate.

From a neoclassical perspective, an excess of investment compared to available savings tends to raise real interest rates whereas an excess of savings would do the opposite. When the interest rate goes down, so does the revenues households can expect from additional savings while, on the other hand, a lower interest rate reduces the cost of loans for business investment. The so-called "natural" interest rate is the one at which the demand for investment is perfectly matched by the supply of savings at a level that guarantees full employment.

Scholars like Summers claim that an excess of savings (often called a "savings glut") has pushed the NRIR into negative territory whereas real interest rates remain near zero. In theory, a decrease in investment should push real interest rates down (towards the NRIR), but in a situation of low inflation, this means that the nominal interest should go negative. The problem is that nominal interest rate is usually never set in the negative. With the nominal interest rate constrained at the zero-lower bound, the real interest rates determined by the market cannot fall further to boost investments to a level that is compatible with full employment,

[1] Because not all secular stagnation explanations fit nicely with the orthodox-heterodox division (e.g. the ageing of the population is recognised by both sides), I decided to present those relatively consensual diagnostics under the mainstream heading.

[2] Two remarks should be made about the mainstream account of secular stagnation. First, the demand-side and supply-side arguments are not often compatible and are rather proposed as competing explanations. Second, this disagreement is not unique to the secular stagnation question and instead has its roots in an ancient divide in economics between supply-siders and demand-siders.

[3] Also "Wicksellian," "equilibrium," "normal," "natural," or "full-employment" interest rate. The NRIR has been defined by Wicksell (1898: 102) as the rate of interest on loans that "is neutral in respect to commodity prices, and tends neither to raise nor to lower them." It is therefore the real interest rate in the normal state of things, or an idealised balanced-growth equilibrium (i.e. an equilibrium at which all the variables grow at a constant rate).

which means an eventual decline in demand, and a slowdown of the level of actual growth compared to its potential level.

With this in mind, secular stagnation then becomes "a state of the economy in which negative real interest rates in the capital market are required in order to establish an equilibrium of saving and investment" (Hein, 2015: 2). It is, in other words, the downward tendency of the real interest rate that is responsible for the lowering of actual growth (Eichengreen, 2015: 1).

But what is pushing interest rates down? The causes for low or negative equilibrium real interest rates are to be found in both demand for and supply of loanable funds. Proponents of demand-side explanations argue that consumers tend to spend less and save more because of (a) a drop in the price of capital or investment goods driving a reduction in firms' demand for savings and (b) rising wealth and income inequality leading to an increase in the propensity to save. They also maintain that (d) a flow of savings from emerging markets has been reinforcing this unbalance and that (e) high levels of consumer debt have been slowing down consumption. Let us dwell on each of these reasons.

The first driving force stated by demand-oriented secular stagnationists is the fall in the price of investment goods relative to final goods (Eggertson and Mehiora, 2014; Thwaites, 2014). Because of the deindustrialisation tendencies that will be exposed just below, and especially in the booming sector of information and communication technologies (ICT), a growing proportion of firms can function without relying on a large number of employees, extensive office space, or costly machinery and factories.

As noted by Davidson (2016), the Internet revolution has allowed companies like WhatsApp (55 employees in 2014) to reach a higher market valuation than Sony (140,900 employees). Whereas Kodak was employing 145,000 people in the late 1980s, it went bankrupt in 2012, the same year Instagram (13 employees at the time) was sold to Facebook for $1 billion (Bregman, 2017: 185). A similar case can be found by comparing hospitality firms: Hilton with 130,000 employees for a $9 billion turnover versus AirBnb that generates a billion dollars with a meagre staff of 500.

Innovations of that type are capital-saving in the sense that they do not increase aggregate investment, which means that firms require less savings to purchase all the necessary capital for their production. Reinforcing this tendency of low savings requirements for production, all types of capital goods, and not just computers, have fallen in price over the last two or three decades as the remaining manufacturing has become increasingly efficient (Sterne and Yates, 2015: 24). In the end, and other things held constant, a decrease in the demand for savings lowers the real interest rate.

Second, the demand-side argues that actual growth is not as high as it could potentially be because of economic inequality (e.g. Krugman, 2014; Summers, 2014; Demailly et al., 2013). Following Keynes' theory, a high concentration of wealth in the top parts of the distribution tends to lower growth rates because wealthy people have a lower propensity to consume than people with lower income. In other words, increasing inequality means that those most likely to spend their money (middle- and low-income households) are the ones with wages growing the least. As a rising share of income goes to top-earners, overall consumption decreases, which negatively affects economic growth rates, and overall savings increase, which, other things equal, negatively affects real interest rates.

Moreover, wage inequality can make workers feel dissatisfied or demotivated, which then lowers labour productivity, and wealth inequality can create health and security issues with the same effect (Wilkinson and Pickett, 2009).[1]

A last contributing factors, which this time affects potential growth, is that income inequality can hinder education and therefore social mobility and skill development possibilities for the children of low-income households (OECD, 2014).

The final two reasons discussed by demand-side secular stagnation scholars have to do with global current account imbalances and levels of consumer debt. Bernanke (2015) argues that the economic success of emerging economies has translated into more savings available globally (a global savings glut), which has been pushing out demand for Western assets and thus contributed to a decline of their price (the real interest rate).

Concerning debt, high levels of consumer debt means that people will have to divert some of their income from consumption to the servicing of their debt. In addition, Krugman (2014) points to the fact that consumer loans are allocated less generously as an effect of the financial crisis of 2007/2008, while Eggertsson and Mehrotra (2014) reason that with increasing inequality, a decreasing share of people are able to acquire loans for consumption. Both these trends further depress demand, pushing rates of economic growth down.

Supply-side hypotheses

For advocates of supply-side explanations, the problem lies in an increasingly limited potential growth, which means limitations in the availability of sources of growth such as natural resources, labour, tools, and knowledge.[2] A study by Husabø (2014) finds that, for the 2013-2020 period, expected rates of potential growth in the Euro area are approximately half of what they were before the global financial crisis of 2008. Similarly, Gordon (2015) reports that potential growth in the same region has declined from an average of 2% in the pre-crisis period to 0.5% between 2009 and 2014.

The supply-side secular stagnationists offer several hypotheses that could explain this contraction: (a) declining population growth in an ageing society, (b) a deceleration of technological progress, (c) a plateauing of education levels that would contribute to lower productivity, and (d) increasing fluctuations and levels of energy prices. In neoclassical economics, potential growth ultimately depends on population growth and technical progress. Population being stable, the rate of potential growth is fully determined by the rate of technological change, which means that everything contributing to its diminution (e.g. less disruptive innovations, plateauing of education levels) is directly responsible for a decline in potential growth.[3]

Let us start with the least controversial hypothesis. A contributing factor that almost everyone agrees on is a lack of population growth and an ageing of the population. A change

[1] Others may argue that wage inequality reinforces a meritocratic culture that makes low-wage employees work harder in order to get access to higher pay, which also makes high-wage employees work harder as to keep their position. Whereas this may momentarily boost labour productivity, it might lead to burn outs and a decrease in productivity in the long term.

[2] This does not mean that Gordon and other supply-side advocates fully disagree with all of the demand-side hypotheses. Often, they both agree on the existence of each other's factors but disagree on their relative effect.

[3] To connect with the demand-side arguments, it should be noted that slow rates of technical progress also tend to depress demand for borrowing (which pushes down real interest rates) because it reduces the potential productivity gains (and therefore profits) that can be expected for producers investing in new production technologies.

in factors such as life expectancy and fertility rates have contributed to creating a shift in the demographic structure of most capitalist economies (most notably Japan, Italy, Germany, and Finland) with an increasing ratio of non-working people (too young or too old) alongside a decreasing ratio of working people.

In France, life expectancy went from 73 years for men and 81 years for women in 1994 to 79 and 85 in 2016 (Insee, 2017), and in 2014, fertility rates fell below 2 children per woman (1.96 in 2015 and 1.93 in 2016). This led to a general increase in the proportion of people over 65, from 21.8% of the total population in 1997 to 28.3% in 2017 (Insee, 2017). The demographic dividend[1] generated by the baby boom and the access of women to waged work during the 1950s and 1960s is now turning into a "reverse demographic dividend" (Gordon, 2012: 16). Today, the baby boomers are retiring, with a relatively smaller generation replacing them at work, the overall effect being a diminution of hours worked per person from 2,183 hours per year in 1950 to 1,472 hours in 2016 (OCDE, 2017).[2] The smaller the active population, the smaller the potential rates of economic growth.

Another relatively uncontroversial conjecture as to why the growth of early industrialised economies is facing limits is to be found in their transition from industrial to service economies. France is a good example of this trend: manufacturing only accounted for 10% of total added value in 2014 when it used to represent 18% in 2000 and 20% in 1990 (Artus and Virard, 2015: 78). This process of deindustrialisation is even more striking when comparing employment in each sector: in 2011, only 1 out of 10 newly created jobs were in the industrial sector when that number was up to 1 out of 6 in 2002. As for services, the number went from 1 out of 2 in 2002 to 2 out of 3 in 2011 (ibid. 81). Overall, the French economy lost one third of its industrial jobs between 1995 and 2011 (Giraud and Renouard, 2016: 76). In 2017, more than 7 out of 10 jobs in the European Union were in services (Eurofound, 2017: 1).

In general, a deindustrialising economy tends to grow more slowly because industry is a faster growing sector in terms of productivity than services. Indeed, productivity is relatively more difficult to improve for services because the main input of the service sector is labour and because the output is most often of a qualitative nature. This qualitative dimension means it is more difficult to automate like it has been done in the agricultural and industrial sectors. For example, in spite of technological innovations, the time spent teaching a class or attending for patients has remained fairly stable; this is because the *input* (professor or nurse) cannot be substituted with capital or energy and the *output* (education and healthcare) depends on how well, and not how fast, it is performed. In the Eurozone between 1990 and 2014, productivity per capita increased by 80% for industries when it only grew by 15% for services (Eurofound, 2017: 39). If an economy is increasingly service-based, it follows that it will have a lower potential growth rate.

A third, more controversial hypothesis, is that innovations are being less and less transformative (this has been argued most forcefully by Gordon, 2012, 2013, 2015). As we have seen, technological change is the most determinant factor of economic growth, and its pace (as

[1] The demographic dividend refers to the growth of per capita income resulting from a demographic transition from a society with high birth and high death rates to one with the opposite features. When fertility rates fall, the working-age share of the population grows more rapidly than the non-working share depending on it, and so, all else unchanged, per capita income increases as well.

[2] The demographic argument also plays out on the demand-side as elders usually consume less than younger people.

measured by total factor productivity[1] or TFP) is slowing down, which means that recent innovations bring about fewer increases in productivity than the innovations of the past. Gordon argues that the Third Industrial Revolution and its innovations such as computers, the Internet, and mobile phones is an industrial revolution without growth in the sense that those are not as prone to increase output as the innovations of the previous industrial revolutions (electricity, internal combustion engine, running water, indoor toilets, communications, entertainment, chemicals, petroleum).

Looking at Total Factor Productivity (henceforth TFP), the effects of information and communications technologies have already peaked, leaving technological change stagnant. In the Eurozone, TFP did not progress at all between 2000 and 2013 whereas it grew by 0.8% during the previous decade (Artus and Virard, 2015: 116-7). The case of France is even more striking as it went from a rise (+0.32%) in the 1990s to a fall (-0.10%) during the first fifteen years of the 21st century (ibid. 35-6). Looking at changes in TFP in the U.K. and U.S. over the 1750-2014 period, Bonaiuti (2017) confirms Gordon's diminishing returns on innovation hypothesis by pointing to a "great wave" with TFP growth peaking at almost +2.2% around 1925 to ever decline after that.[2]

The fourth suggested cause of secular stagnation is the plateauing of educational achievements. Because education is a key driver of productivity growth, a broader access to it brings potential growth rates up (especially when large portions of the population get access to the education system for the first time). Yet, Gordon (2012) warns that once this mass education revolution complete, there will be no further increase in the average education level to boost productivity growth. Developed countries may have already exhausted the largest effects of a better-educated work force on productivity. (Gordon makes this case for the US, but others such as Hein (2015: 4) have argued that this might also hold for several other rich economies.)

An additional factor concerns the skills of the workers. In a climate of fast-changing technologies and high unemployment, it is common to reach a misfit between the knowledge and skills supplied by workers and the ones demanded by companies. In countries where the workforce lacks the skills that are suddenly in demand, this skill gap widens and creates unemployment, which negatively affect growth rates. In 2014, the consulting company PricewaterhouseCoopers (PwC) calculated a "Talent Adaptability Score" to estimate the ability of a labour market to adapt to shifts in demand and supply. The study concluded that market with the most adaptable talent are more efficient (lower recruitment costs) and productive (high human capital return on investment engagement). In France, this lack of adaptability is costing French companies an estimated €2.45 billion in lost productivity (PwC, 2014).

At last, a less often mentioned hypothesis to explain the stagnation is the fluctuation and level of fossil energy prices. As we saw in Chapter 2, oil is more and more costly to extract

[1] Technological change is estimated by measuring total factor productivity (TFP), or "the portion of output not explained by the amount of inputs used in production" (Comin, 2006: 1). TFP is that part of an increase in production that is resulting neither from an increase in capital and natural resources nor from an increase in labour, but from an improvement in the efficiency of their use. It is, in other words, a measure of how well inputs are transformed into output. For example, better educated workers or more productive machines contribute to a rise in output without an increase in input, that is an increase in the total productivity of the factors of production. If an economy's TFP increases by 2% per year, it means that, with no change in inputs, output will grow by 2%.

[2] Because the index of TFP is composed of both research intensity (the share of workers employed in research and development) and size (the increase of the labour force that, in the long-run, is equal to that of population), the reduction in population growth discussed earlier implies a lower increase in the number of inventors, and therefore a lower increase of TFP (Pagano and Sbracia, 2014: 6).

because the easiest barrels have already been pumped, leaving only those that are more difficult to access and process (e.g. deep sea drilling, shale oil, tar sands). Because of the rising complexity of extraction and processing techniques, the capital intensity of oil companies is rising, which means that they require proportionally higher investments.

Problem is: there is currently a shortage of investment. Less investment means less capital, which ultimately means less production. Because oil is a crucial input for most processes of production, scarcer oil will lower rates of potential growth over the long term. In addition, because of environmental policies to mitigate the effects of climate change, prices of fossil energies are expected to rise, which will reduce profit rates and further discourage investment.

Heterodox ideas of secular stagnation

The second difference in understandings of secular stagnation has to do with a disagreement, once again over causes, but this time between the mainstream and the heterodox school of Marxian economics. Far away from neoclassical assumptions,[1] the idea of stagnation has a long history in Marxian scholarship.[2] The difference here is more significant than the one within the mainstream because the two schools of thought hold different economic ontologies.

What is usually called *economic growth* in standard economics is, in Marxian theories, only the involuntary effect of the economic phenomenon of *capital accumulation* (Scarano, 2017: 6). In Marxian terms, the secular stagnation then becomes "the tendency to long-term stagnation in the private accumulation process of the capitalist economy" (Despain, 2015: 39). In short, the Marxian stagnationists argue that there is nothing natural or automatic about the fulfilment of a long-run rate of growth that would guarantee full capacity production in a capitalist economy (Foster, 1987: 59). Their analysis focuses on the demand side, as it is in the end a lack of consumption that is responsible for the shortage of investment that is itself causing the economy to stagnate. Let me elaborate.

It all starts with Karl Marx (1818-1883). A broad analysis of stagnation was already present in Marx in the form of the hypothesis of the "law of the tendency of the rate of profit to fall" developed in the third volume of *Das Kapital* (1894). Simply put, Marx argued that the rate of profit (what we would now call the *rate of return on capital*) naturally follows a declining trend because capital accumulates faster than the labour force can grow (Sinn, 2017: 233). Because technological change enables the increase of productivity of the non-labour means of production (read: machines), capitalists will tend to replace their workers with machinery as much as possible. Note that, in the Marxian perspective, only labour creates additional value, and so fewer workers necessarily means less surplus value, and so a reduction of the rate of profits in the long run.

The proposition is quite paradoxical: the more capitalists substitute machines for workers to make a profit, the less potential profit they can actually make since the more capital intensive an economy is, the lower its rate of profits. At some point, the falling rate of profits

[1] Hein (2015: 3) identifies three mainstream assumptions about secular stagnation that are challenged by the heterodoxy: (1) assuming the existence of an equilibrium real interest rate; (2) assuming that potential growth is independent of aggregate demand; (3) assuming away changes in institutions and power relationships between social classes.
[2] As suggested by Hein (2015: 3), for overview see Bleany (1976), Foster (1987, 2014), Foster and McChesney (2012), and Hein (2014).

reaches a tipping-point at which profits are too low to encourage entrepreneurs to make new investments. And why indeed would anybody sink their funds into production that would barely generate any profit? The investment strike that would follow would plunge the economy into a crisis. Fewer sales of capital goods (i.e. goods used to produce other goods) means fewer sales of intermediate goods; this would trigger a far-reaching chain reaction in all economic sectors and a vicious circle of secular stagnation (Sinn, 2017: 233).

How to explain this paradox? The first theoretical step in explaining this process of stagnation comes from the works of Polish economist Michal Kalecki (1899-1970) from the 1930s. The core logic of the Kaleckian view runs as follows: firms make a profit by extracting surplus value from the workers and use that profit to buy capital goods (i.e. to reinvest in developing the capital means of production). Free competition generates a tendency for capital to concentrate in a small numbers of large firms. As those large firms compete against one another, they try to increase their profits as much as they can, predominantly by intensifying the exploitation of their employees (decrease wages) or by substituting labour with capital (creating unemployment).

The more profits they extract, the more investment they make and consequently the more their production capacity increases. The problem is that the means of production grow faster than the ability of workers to purchase the articles of consumption offered by the company (because companies' profits are made at the expense of workers' wages or because it creates unemployment). Sooner or later, the economy reaches a crisis of over-production where the means of production are built up to such a prodigious extent that there is a gap between the capacity to produce and the capacity to consume (Foster, 1987: 61).

The second piece of the Marxian puzzle is given by Austrian-born economist Josef Steindl (1912-1993) who argued in *Maturity and Stagnation in American Capitalism* (1952) that the tendencies towards oligopoly discovered by Kalecki at the microeconomic level cause a tendency towards stagnation at the macroeconomic level (Hein, 2015: 11). Steindl's argument is the following. For the reasons Kalecki explained, as giant firms achieve monopoly or oligopoly, their profit margins increase at the expense of an increase in wages, and those profits are being reinvested into means of production that will grow disproportionately compared to workers' purchasing power.

Faced with a weakening demand, firms seek to maintain their profits by reducing their rate of capacity utilisation[1] rather than their prices, which exacerbates the excess production capacity. Fearing additional excess capacity, large firms will stop investing. Indeed, when productive capacities are built in excess and if demand is weak, firms have all incentives to slow down or even stop reinvesting profits into more means of production because the expected profit on those new investment is quite low. Because one of the main determinants of investment is the degree of capacity utilisation, this will result into a shortage of investment in the overall economy. Fewer investment means a shortage of funds for firms in competing industries that could have used it to expand their production, which would have compensated the stagnative tendencies imposed on the economy by oligopolistic industries (Hein, 2015: 11).

[1] Capacity utilisation describes the use that is made of a firm's existing means of production. It is the difference between the output that is currently produced with the installed equipment compared to the output that could potentially be produced should all the means of production be used to their fullest extent.

The crisis of over-production becomes a crisis of over-accumulation because there is a shortage of investment outlets to absorb the surplus.

Basically, Steindl uncovers a reinforcing feedback loop between demand and investment through the ability of large firms to decrease their capacity utilisation. Oligopoly leads to a decline in the degree of capacity utilisation, which dampens investment and then demand, which further reduce capacity utilisation, and so on. Under those circumstances, the economy finds itself caught in a vicious circle of stagnation where there will be "a tendency to generate a larger investment-seeking surplus at a full employment level of output than the system can profitably absorb" (Foster, 1987: 66).

The third theoretical stone of the Marxian edifice was brought in the form of Monopoly Capital Theory by Paul Sweezy (1910-2004) and Paul A. Baran (1909-1964) in their book *Monopoly Capital* (1966). Inspired by the contributions of Kalecki and Steindl, they argued that Marx's "law of the tendency of the rate of profit to fall" had been replaced by the "law of the tendency of the surplus to rise" (Foster, 1987: 63). As shown by Kalecki and Steindl, investment is hindered by the fact that it enables new productive capacity, which cannot be expanded for long periods of time without a proportional expansion in final, wage-based demand. Simply put, there is no point producing if nobody is buying. In that case, the critical economic problem faced by capitalism is one of surplus absorption.

According to the authors, this surplus can be consumed, reinvested, or wasted (Baran and Sweezy, 1966: 79). The *consumption* of this surplus tends to fall in the long term as people with higher incomes have a lower propensity to consume, and the *investment* of the surplus is limited as it creates excess capacity. The system therefore fails to generate the demand in both consumer products and investment that would be necessary to absorb the rapid rise in surplus produced by giant firms and their ever-expanding productive capacity.

Because the surplus that cannot be absorbed will not be produced, it follows that the normal state of late capitalism is stagnation. Baran and Sweezy concluded that the system had a powerful tendency to stall, largely counteracted thus far through the only option to avoid stagnation: the promotion of economic waste (e.g. marketing, military expenditures, expansion of the financial sector). For Marxian economists, today's secular stagnation is not a surprise, it is the natural outcome of the logic of capital.

This first section of this chapter opened on a mystery: What is happening to economic growth? Attracting the attention of both neoclassical and Marxian economists, this question has led to a plethora of theories exposing potential limits to the expansion of the realm of commodities in capitalist economies. The main hypothesis I will continue to explore in the next section is that low-rates of economic growth are rather the rule than the exception, and this because of the limited character of reproduction capabilities that support all economic activities.

Social recession

In the first section of this chapter, I have reviewed proposed causes of the currently observed stagnation of Gross Domestic Product (GDP). The explanations provided by both mainstream

and heterodox authors point to either a production or a consumption crisis. Now, we go deeper to look, not at production and consumption, but at *reproduction*.

The term "reproduction" should here be understood in a broad sense; not only the production of offspring, but all factors that contribute to the replenishment of the ability of groups and individuals to engage in the production of commodities, for example, self-confidence, trust, and sympathy. The hypothesis underlying this section is that the slowing down of growth rates is no mystery but the result of growth itself. Bluntly put, not enough growth is a consequence of too much growth.

It is so because the expansion and intensification of the GDP economy deteriorates a psycho-social environment that is a necessary condition for all forms of production, including the one of commodities. The logic is similar to the one of Chapter 2, except economic growth is overshooting, not planetary boundaries (*biophysical* limits to growth), but the social carrying capacity of the society it is embedded in (*social* limits to growth).

The costs of economic growth

GDP is not all boon. With the term "social recession," Myers' (2000a) book "*The American Paradox: Spiritual Hunger in an Age of Plenty*" captured a situation where a society might be booming in GDP terms but to the detriment of attention given to personality, family, and community. In the same spirt than Cobb et al. (1995) when they asked "If the GDP is up, why is America down?",[1] social recession points to a trade-off between economic and social welfare.

The consumption of commodities sometime comes at the expense of individual and community well-being. The time spent shopping and working as to be able to afford the things one wants to own is time not spent with loved ones, playing or engaging in self-determined projects. The race for income translates in longer hours that wear out workers and exacerbate environmental pressures; and the conspicuous consumption it enables is a vector of inequality, with all the negative consequences it has throughout society (Wilkinson and Pickett, 2009). Essentially, economic growth can be both a blessing and a curse.

In *The Costs of Economic Growth* (1967), Ezra Mishan was one of the first to suggest that economic growth had costs and not only benefits. More radically, he argued that the costs of growth were beginning to outweigh its benefits and that all things considered, continued economic expansion was more likely to reduce rather than increase social welfare.[2] Mishan's original list of costs included psychological ill-health, long working hours and lack of leisure, loss of community, ugly cityscapes, traffic congestion, pollution and environmental degradation (ibid. 3). Whereas the ecological costs of growth had already been highlighted by a few scholars, the true originality of Mishan's work lies in pointing at costs of a social nature. The key insight is that economic growth does not only create but also destroy. "Economy can indeed produce a lot of commodities and services to relieve a particular set of needs. But as it

[1] The attentive reader will recognise in this title a sentence from Kuznets's warning to the US congress in 1934 about using GDP as a measure of welfare. A decade later, Kuznets (1949: 129) would capture the essence of what Herman Daly would later call "uneconomic growth" by pointing to the difference "between healthy or normal growth and unhealthy or abnormal."

[2] Of course, this insight is not completely new. Already at the beginning of the 19th century, James Maitland, the 8th Earl of Lauderdale, came to the same conclusions in his *Inquiry into the Nature and Origin of Public Wealth and into the Means and Causes of its Increase* (1804). In what is now referred to as "Lauderdale Paradox," the author argued that the accumulation of "private riches" was achieved at the expense of the depletion of public ones.

disvalues and often destroys a whole range of other human activities, which, for the majority of people, continue to be vital for meeting their needs" (Rahnema, 1992: 186).

A decade later, Drewnowski (1978: 264) introduced the "affluence line," the "level above which consumption need not and should not rise." Justifying the relevance of such a threshold, he noted a paradox: "it has been always believed that social evils[1] are all generated by poverty and destitution. But now the opposite seems to be true: it is in the most affluent societies that crime and corruption increase by leaps and bounds, and the faster the affluence spreads the lower society sinks" (ibid. 267). Instead of being its solution, economic growth would be a vector of social deterioration.

The ecological economist Herman Daly has championed a cost benefit analysis approach to economic growth.[2] To start with, he differentiates between "economic growth" (an increase in output) and "economic" growth (an increase in output whose marginal benefit – in terms of welfare, and not only money – is higher than its marginal cost). For Daly, the economy reaches its optimal scale when the marginal costs of growth equal its marginal benefits – the "when to stop rule" often applied in microeconomics (Daly, 2014: 131). Beyond this given point, increments in GDP are counterbalanced by the losses related to an array of social-ecological "bads" (the opposite of goods) that contribute to what John Ruskin (1860) called "illth" (the reverse of wealth). It is at this point that economic growth becomes "uneconomic growth." In its most recent article, Daly (2019: 18) repeats the point he made consistently for several decades: "I suggest that physical throughput growth is, at the present margin and in the aggregate, increasing illth faster than wealth, thus making us poorer rather than richer."[3]

This is similar to Max-Neef's (1995: 117) "Threshold Hypothesis." "For every society," the Chilean economist writes, "there seems to be a period in which economic growth brings about an improvement in the quality of life, but only up to a point – the threshold point – beyond which, if there is more economic growth, quality of life may begin to deteriorate." This is because consumer society creates a specific type of satisfiers which Max-Neef (1991) calls "violators and destructors." For example, bureaucracy supposedly satisfies the need of protection, but at the cost of impairing an array of other needs. A degraded environment, an unstable economy, and the deterioration of trust can impose new costs (e.g. commuting, house moves, guard labour, or insurance premiums). This is the unhealthy, "excess fat" of economic development (Perret, 2015: 35, mt).

[1] Drewnowki (1978: 267) writes about the "deterioration of common honesty standards, the decline of the sense of duty among the leading and most affluent professions, extortion and violence as methods of dealing with conflicts […]."

[2] One should here acknowledge that Kuznets himself was close to this perspective when he argued in his *Studies in Income and Wealth* (1937: 36-37) that one should: "subtract from the present national income totals all expenses on armament, most of the outlays an advertising, a great many of the expenses involved in financial and speculative activities, and what is perhaps most important, the outlays that have been made necessary in order to overcome difficulties that are, properly speaking, costs implicit in our economic civilization. All the gigantic outlays on our urban civilization, subways, expensive housing, etc., which in our usual estimates we include at the value of the net product they yield on the 'market,' do not really represent net services to the individuals comprising the nation but are, from their viewpoint, an evil necessary in order to be able to make a living (i.e. they are largely business expenses rather than living expenses)."

[3] This is the same claim he made 45 years earlier: "At some point, the rising marginal costs of physical growth will begin to exceed the falling marginal benefits. To grow beyond that point would reduce welfare rather than increase it. Therefore physical growth should stop at that point" (Daly, 1974: 151).

Commoditisation and social degradation

While Mishan, Drewnowski, Daly, and Max-Neef show that economic growth bears social costs, the Italian political scientist Stefano Bartolini (2010) goes one step further and explain how growth comes to damage the social fabric. For Bartolini, the positive effects of an increase in income are cancelled by an associated degradation of human relations. Economic growth engenders a "relational poverty" taking the form of "loneliness, communication issues, fear, mistrust, an instability of families, a generational fracture, and a decrease in social and political participation" (ibid. 37). In the more direct words of Illich (2005), economic value accumulates out of the creation of cultural "disvalue."

His rationale runs as follows: when the economy expands, it transforms amenities that could not be bought but were essential to well-being (e.g. air quality, friendship, love, trust, security) into commodities. The market provides substitutes for these environmental and social goods (e.g. if one lives in a dangerous neighbourhood, one can buy a home cinema instead of having to actually go out to the cinema; managers can substitute trust in their employees by installing a camera; one can go to the swimming pool if the nearby river is too polluted; if one struggles to find a partner, one can either buy an account on a dating website or directly purchase the service of an escort), but those products are not as satisfying as the free ones (e.g. the time spent with an escort is rendered less meaningful by the fact that it was purchased). Even though the market can provide commodities to fulfil needs, the logic of monetary exchange corrupts their essence and makes them less enjoyable (Sandel, 2012).

The substitutes are not as satisfying as their non-market alternatives because they are priced. The problem is that, as it has been widely shown, economic incentives tend to crowd out both social and moral incentives and lead to a degradation of the quality of the service performed (Titmuss, 1970; Deci, 1971; Deci and Ryan 1985; Frey, 1997; Frey and Oberholzer-Gee, 1997; Gneezy and Rustichini, 2000; Frey and Jegen, 2001).

For example, people are more likely to be late at picking up their children at day care if they know they will pay a fine when they do so, and this because they start treating the fine as the price of being late (Gneezy and Rustichini, 2000). More generally, paying for a service can radically change the experience of the service itself. That is the difference between a person taking care of their grandparents because it is morally right and a company's managers and owners organising the same task because it is financially profitable. It is also why one does not behave in the same manner with a Couchsurfing participant hosting them for free than with an Airbnb one who does so for money. The social relations involved in sharing and reciprocity that are based on trust, sympathy, and joviality are replaced by the cold, impersonal, and calculative logic of market exchange. In commodifying more aspects of social life, extensive growth (i.e. the expansion of the realm of market exchange) corrodes a social fabric that was produced and reproduced via a diverse web of non-economic interactions.

As I will explore in depth in Chapter 6, commodities require a certain standardisation. The objective of that standardisation is to make the good/service comparable to others in different setting. This necessarily involve dis-embedding a specific thing from its concrete context, that is the specific relations between that thing and the people and nature around it. If commoditisation occurs via the severing of peculiar, local relationships, a case could be made

that extensive growth through commoditisation is a force of social disaggregation that breaks down relationships.

While extensive growth degrades social relation, this is also true for intensive growth through an increase in the volume of existing monetary transactions. As more and more people use these newly created market goods, it motivates profit-seeking businesses to intensify their production. But more production means more social costs. It can be more pressure on the free availability of environmental goods such as silence, clean air, a swim in a non-polluted lake, or a pleasant walk in the woods when production come to deteriorate ecosystems. Or more pressure on relational goods such as friendship or community activities if the intensified production consumes people's time and energy, then restraining their ability to meaningful engage with each other. In the end the market-driven system erodes the social fabric and the ties that keep people together, resulting in the diminished quality of social relations, which is itself prone to facilitate an expansion of the market-system (Bartolini and Bonatti, 2008).

Even if production does not directly degrade the social fabric, it diverts time and resources from important social activities. This is Manno's (2000) "natural selection of commodities" theory. His starting point is that there exist different forms of goods and services competing for investment of time, attention, and resources. In what he calls the "natural selection of commodities," the dynamics of market competition between for-profit firms tend to disproportionately reward commodities over unpriced amenities. "Commoditization directs the energy and material flows as well as the human attention that determines those flows toward certain species of goods and services with the quality of commodities," which leads to a "systematic impoverishment of the nonmarket aspects of social life" (Manno, 2000: ch.3). It results that commodities are constantly improved, then appearing more apt to satisfying needs than their lesser developed, non-commercial alternatives. If apartments are all on Airbnb, there will be less options on Couchsurfing.

Let us illustrate with another example. In *The Outsourced Self* (2012), Hochschild documents the diversity of care tasks, from nannies and surrogate mothers to household consultants and love coaches, that one can now find on the market. Besides being a problem in itself, commodification threatens the viability of remaining uncommodified services. Consider an informal day-care scheme that would function properly if an entire neighbourhood self-organise together with parents rotating to take care of the children; this system cannot exist with only a single family interested in doing so. The uncommodified provision of childcare can only occur if a certain critical mass of parents are willing to engage in such a scheme (quantity) and if parents actually trust each other in doing so (quality).

This is a vicious circle of growth and relational/environmental poverty: the more time and effort is spent on producing commodities, the less time and effort is spent on personality, family, and community. The more degraded the social fabric is, the more individuals must resort to purchasing commodities. And the more commodities they purchase, the more time and effort must be collectively spent producing these commodities. Bartolini (2010: 48) speaks of a "negative endogenous growth" to describe when economic growth both causes and feeds on the destruction of its social environment.

The exact same logic is at play with environmental amenities. One example among many: without an access to drinkable water, people must purchase bottles. But the production of plastic bottles involves environmental pollutions that further degrade water quality and

makes bottled water indispensable. *More* growth, *less* environment, *more* growth. Antoci and Bartolini (1999) talk of the "air conditioner syndrome" referring to the case of Tokyoites who purchase such device to cool their homes but at the expense of more heat being emitted outside, which then forces the people who do not have air conditioning to install it.[1] Healy et al. (2014) call it "accumulation by contamination": "the process by which the capital system endangers, through cost-shifting, the means of existence (and subsistence) of human beings to perpetuate capitalistic relations."

To sum up, economic growth both causes and feeds on the deterioration of the social fabric, what Généreux (2011) calls "disociety" (a word that both captures the *dissociating* and *dissolving* effect of commoditisation). But it can only do so up to the point, namely the moment when the social fabric is so degraded that no more production can happen. This moment has been referred to as a *social crisis of reproduction* and it is to there that we will turn now.

A crisis of reproduction

So economic growth has social costs, which is the result of its tendency to expand and intensify the production of commodities at the expense of other forms of production. In this last part, I want to mobilise an argument put forward by eco-feminist economists and argue that past a certain threshold, the damage done can come to jeopardise certain social capacities that underlie all forms of production, including the one of commodities.

The starting point of the argument is the acknowledgment that production does not happen magically in a social vacuum. "*Who cooked Adam Smith's dinner*" asks Marçal (2012) in the title of her book. Answer: his mum. This dissertation should come with a lengthy acknowledgment, which would reveal hidden factors of production: my partners, friends, and family giving me the feeling that what I did was worth doing; a Kazakhstani hacker who gave me access to the necessary literature; the safety of the Swedish woods where I could have my daily walks unrobed; the countless chefs who cooked for me; the clean air of the Auvergnate mountains; as well as the broader European community who, via taxation, enabled me to spend three years to write this piece. Left on my own on a desert with paper and pen, I doubt to have produced a word at all.

To produce anything, ones does not only need direct factors of production (time, energy, materials, knowledge etc.) but also indirect ones like self-confidence, safety, and support. Without something seemingly negligible such as self-confidence in the baker's own ability to bake, the bread would never be baked. This is true whether something is being made for selling, giving, sharing, or subsistence.

In the same manner that growth is limited by *production* factors, it is also limited by the availability of *reproduction* factors such as rest, affection, caring, security, and the providing of sustenance (Gibson-Graham, 2006). Federici (2012: 5) defines reproduction as "the complex of activities and relations by which our life and labor are daily reconstituted." In the same way that ecosystems provide indispensable amenities (e.g. pollination, soil fertility, climate regulation), sociosystems provide an array of care services (e.g. sustenance and comfort in

[1] This was also the case in France after the 2003 heat wave when the demand for residential air conditioning doubled in the six months following the disaster (AFP, 2004 cited in Kenner, 2015: 8).

family, safety through neighbourly vigilance, benevolent assistance and daily acts of kindness, collective resistance during protests).

Social reproduction can then be defined broadly as "biological reproduction, which includes (a) the reproduction of labour, the provision of sexual, emotional, and affective services that are required to maintain households; (b) production in the home, of both goods and services as well as social provisioning and voluntary work; (c) reproduction of culture and ideology, which stabilises and (sometimes challenges) dominant social relations" (Rai et al., 2014: 87). These happen in different "sites of reproduction" (ibid.): at the level of the *individual* (e.g. taking the time to nap), *household* (e.g. partner watching kids while I take a nap), and *community* (e.g. labour regulation allowing me to take a nap). If the economy is embedded in society and nature, then "production" is never fully detached from its social and ecological surrounding. Behind every shop or factory, there are invisible social and ecological systems of support without which production could not happen.[1]

Because they are devoid of monetary transactions and thus outside of GDP and the sphere of for-profit competition (unless imputed into it), these unpriced care activities tend to be left neglected by an economic system that only rewards the production of exchange value. As Fraser (2016) puts it, the capitalist economy "free rides on activities of provisioning, care-giving, and interaction that produce and maintain social bonds. […] they have remunerated 'reproductive' activities in the coin of 'love' and 'virtue,' while compensating 'productive work' in that of money." This is unfair because that neglect translates into an unfair split of the wealth created through both production and reproduction, and especially so since the vast majority of those who carry responsibility for social reproduction are women, often from marginalised minorities.[2]

It is not only unfair but also unsustainable. By not accounting for reproduction factors, production can too easily lead to their "depletion" (Rai et al., 2014). The logic is similar to the unsustainable extractivist logic described in the previous chapter where production occurs at an ecological deficit. In *Patriarchy and Accumulation on a World Scale*, German sociologist Maria Mies (1986) explains how capital accumulation occurs through the exploitation of "colonies" or places of reproduction such as unpaid housework, subsistence farming, informal work, and unpriced environmental amenities. Besides, in a society where all needs are commodified, one must get money to survive. Working full-time leaves little time to activities that are unpaid such as those who are key for social reproduction (e.g. learning about candidates during election campaigns, spending time getting to know the neighbours, or educating one's children). By over-exploiting the social amenities on which it relies, an economy with constantly intensifying production saws off the branch it is sitting on.

The problem is that both spheres are based on contradictory logics. While the sphere of reproduction is based on a logic of satisfying needs, nurturing relations, and sustaining life (what Mies and Bennholdt-Thomsen, 1999, call the "subsistence perspective"), the one of market production follows a logic of expansion and intensification. Reproduction is qualitative;

[1] This reproductive sector is anything but marginal. In 2005, the unpaid labour spent on housework and care for children in the United Kingdom was the monetary equivalent of £253.7 billion if paid at minimum wage, that is 21% of the British GDP (nef, 2010: 15). To gain a sense of proportion, this is larger than all manufacturing activities (Plecher, 2019).

[2] These caring activities do not only reproduce gender inequalities but also broader inequalities (for example, race and nationality). Hochschild (2000: 13) speaks of "global care chains," where the richest can afford to live out of the paid or unpaid care services of poorer others.

it depends on social relations and is ultimately bounded by time. Production, on the other hand, is quantitative and knows no boundaries because it is measured in money.

As production increases, it will stretch the capacity for a society to reproduce its livelihood, part of which is its ability to produce goods and services; to the point where conditions of production are so deteriorated that production can no longer occur. Fraser (2016) calls it a "social-reproductive contradiction": "on the one hand, social reproduction is a condition of possibility for sustained capital accumulation; on the other hand, capitalism's orientation to unlimited accumulation tends to destabilize the vary processes of social reproduction on which it relies."[1] As for the claim that these social capacities could be commodified to enter the realm of capital accumulation and survive, it brings us back to our starting point, namely the commoditisation-and-social-degradation argument.

And this is not only a problem of scale but also of the nature of the task produced. Salleh (2010) distinguishes "industrial labour" and its destructive capacities on nature and "meta-industrial labour" that counter-balances it by working on the regeneration of the bodies and ecosystems degraded via production. *Industrial labour* drains ecosystems and communities, *meta-industrial labour* regenerates them.

Economic growth thrives by overexploiting factors of production beyond their reproductive capacities. One can hardly rest from a 60-hour workweek in a week-end, especially if one spends it unhappy and alone. This makes social crises of reproduction another objection to limitless economic growth.

Economic growth is not all boon. The expansion and intensification of the production of commodities often occurs at the expense of the social fabric in the community where it occurs. GDP is up but community is down, with a boom in financial wealth having caused a bust in societal health. Continued unabated, this accumulation via social deterioration comes to erode factors of reproduction that are crucial for all forms of production, including the one of market products. Like a snake biting its own tail, economic growth is limited because it is inevitably based on the unsustainable exploitation of reproductive labour.

Conclusions for Chapter 3

IT is generally assumed that the secular stagnation hypothesis put forward by American economist Alvin Hansen in the 1930s disappeared because it was manifestly refuted by events. But what if the upsurge in output experienced after the war was the exception rather than the rule? The steady decline in growth rates over the last decades has led a number of scholars to believe that early industrialised countries are indeed experiencing the end of economic growth. The secular stagnation discourse has rallied both mainstream and heterodox economists in a fundamental debate about the underlying causes of economic growth that is of great relevance for the growth-critical scholarship. The solutions proposed by secular

[1] This is what Brodie (2003) refers to as "the paradox of necessity," or neoliberalism undermining "the very things that enable markets to work in the first place such as a healthy and educated workforce, political stability, civility, and trust" (ibid. 61).

stagnationists,[1] however, differ drastically from postgrowth policy proposals as their only goal is to rekindle something that objectors to growth would want to see extinguished.

This discussion over stagnation makes another discourse resonate: the one pointing to social costs of economic growth and the fact that these come to threaten, not only the production of commodities, but production in general. While Chapter 2 has exposed a limited ecological carrying capacity for market activities, this part has shown that there was a similar *social carrying capacity*. Any economy that degrades either its ecological or social foundations is doomed to collapse sooner or later. There is an insurmountable contradiction between the logic of unbounded financial accumulation in the market economy and the logic of maintaining relational health that characterises the sphere of reproduction. Just as an infinite growth is impossible on a finite planet, an infinite growth is also impossible in a community whose ability to reproduce itself is finite.

[1] On the *supply-side*, policies to raise labour supply and hours worked, stimulate innovation and increase efficiency, improve the education system, invest in physical infrastructure, remove barriers to mobility between firms by reducing employment protection legislation. On the *demand-side*, raising the inflation target, increase public investment in roads, bridges, airports, broadband, green technology, and healthcare, countercyclical fiscal policies, reduction of barriers for private investment, income redistribution towards lower income households, and raising the retirement age (Hein, 2015: 6).

Chapter 4

Social limits of growth

WHAT is growth for? As was shown in Chapter 1, economic growth is desired because it promises employment, economic equality, and more generally happiness obtained through consumption. "Growth makes us healthier, it lengthens our lives, it (mostly) makes us happier, it diminishes poverty and narrows the gaps between countries, it expands opportunities and frequently liberates those who are oppressed. Even bearing in mind its faults, it remains one of the world's great miracles" (Conway, 2019).

This chapter questions the ability of Gross Domestic Product (GDP) growth to deliver on this promise. The central argument is that even in a hypothetical world of limitless resources and absorption capacities (Chapter 2) where there would be no socioeconomic obstacles to growth (Chapter 3), the unlimited pursuit of economic growth would still be pointless if it no longer contributes to achieving that which it is supposed to achieve.

The social limits *of* growth are different in nature from the socioeconomic limits *to* growth that have been covered in the previous chapters. While the socioeconomic limits *to* growth refer to the factors that constrain the ability of an economy to expand and intensify (e.g. population, innovation, education, energy, inequality, care activities), the social limits *of* growth focus on the limited ability for economic growth to achieve certain ethical-social objectives. Ultimately, the different limits add on to each other: economic growth can overshoot both its ecological and social carrying capacity while still failing to deliver positive outcomes for society. This is the situation I will be describing in this chapter.

Creating jobs

The link between economic growth and employment is deeply ingrained in the social imaginary as a relation of necessity: growth is indispensable to create jobs. For example, the Sustainable Development Goal n°8 ("promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all") bundles growth and employment together assuming that with one comes the other. The best strategy to reach full-employment, we are being told, is to increase the production of market commodities.

Recession, on the other hand, breeds joblessness and misery. Indeed, being unemployed without an income in a society where most satisfiers of human needs can only be bought with money is intolerable hardship. And doubly so in a culture with a strong work ethic that equates paid employment with success and where most of social life derives from relations one forms in the workplace. This is why unemployment correlates with a variety of personal and social ills ranging from loss of self-esteem and self-confidence, child and spouse maltreatment, family breakdown, discrimination, drug and alcohol abuse, physical and psychological illness, as well as depression, suicide, and attempted suicide (Goldsmith et al., 1997; Winkelmann and Winkelmann, 1998; Lawn, 2009; Murphy and Athanasou, 1999 in Pollitt et al., 2010: 28; Browning and Heinesen, 2012).

While I will later argue that employment is not the only solution to unemployment (Chapter 10), I here assume that the creation of paid jobs is a desirable goal, granted the quality of these jobs is decent. The guiding question of this opening section is twofold: What is the impact of economic growth on the volume and quality of employment? Or in other words, does economic growth create jobs? And if yes, are those the kinds of jobs that contribute positively to well-being?

Economic growth and quantity of employment

Let us start with the question of *conjectural* unemployment, which is the short-term unemployment linked to the business cycle (as opposed to *structural* unemployment having to do with skills). (The issue of structural unemployment is by and large put aside in this chapter; I will return to it in Chapter 10: Transforming work.) Jackson and Victor (2011) describe advanced economies as being caught in a "productivity trap" where growth is necessary in the presence of increasing labour productivity to avoid the creation of unemployment. Because labour is relatively expensive compared to capital and natural resources, firms have an incentive to improve labour productivity. With more output per worker per hour, a smaller workforce is needed to produce the same quantity of goods, and so only an increase in production can prevent a structural loss of jobs. If the economy does not grow fast enough to offset an increase in labour productivity, the result will be unemployment.

In theory, the logical chain could be reversed. In a situation where natural resources and capital would be more expensive than labour, firms would substitute labour for capital or/and invest in improving capital and resource productivity, which would reduce output per worker per hour and mean that a larger workforce would be required to produce the same output (e.g. imagine a transition from industrial agriculture to agroecology where labour would come to replace machines, fertilisers, and pesticides).

But employment – or the lack of it – is only one variable of a broader macroeconomic causal loop. In a capitalist economy, both employment or unemployment create an economy-wide momentum of their own that is either positive or negative. In a virtuous circle of employment, more employment increases available income and consequently demand for consumer goods, which increases business revenues, incentivises investment which increases productive capacity, and further increases employment in a spiral of growth and job creation. A vicious circle of unemployment would be the reverse situation where unemployment reduces spending power and demand for goods with a corresponding drop in sales and business

revenues, and then a decline in investment, which then further exacerbates unemployment in a spiral of recession and job destruction.

This relationship between growth and conjectural unemployment has been observed in the form of what came to be referred to as Okun's Law. In 1962, American economist Arthur M. Okun estimated that the economy experienced a 1% decrease in unemployment for every 3% increase in real GDP. Employment would rise during the boom and fall during the bust.

The relation was determined by three variables in such a way that a 3% rise in GDP from its long-run level corresponded to a 0.5% increase in the *labour force participation rate*,[1] a 0.5% increase in the *hours worked per employee*, and a 1% increase in *labour productivity*, leaving the remaining 1% to be the change in the unemployment rate. As long as the sum of these three variables is lower than the growth rate of real GDP, then jobs would be created. But if population increased suddenly, if already employed workers started to work longer hours, and if labour productivity increased, and if these three factors overpowered the increase in GDP, then there would be joblessness.

After several decades of study, Okun's Law has been argued to be one of the most enduring stylised facts in macroeconomics (Ball et al., 2013; Freeman, 2001), one of the few almost universally accepted core beliefs of the profession (Blinder, 1997). However, it has also been criticised on empirical and theoretical grounds.

Empirically, the relationship has been criticised as asymmetrical (Hollmes and Silverstone, 2006; Silvapulle et al., 2004; Cuaresma, 2003; Harris and Silverstone, 2001), unstable (Meyer and Tasci, 2012; Cazes et al., 2011; Ball et al., 2011; Huang and Lin, 2008; Knotek, 2007; Sögner and Stiassny, 2002; Weber, 1995), weaker than expected and inconsistent across countries and over time (Khemraj et al., 2006), and even totally inoperative (Gordon, 2011; NPR, 2011). In Germany, for example, the effect of a 1-point decline in GDP translated into a 0.22% drop in employment, compared to 0.37% in the US; in France it is only -0.17% while in Japan, the relationship is almost absent (0.03%).

When it comes to theory, the direction of the causality is a matter of controversy: Is it growth that creates jobs or vice versa? This question reflects the old debate discussed in Chapter 3 between advocates of supply-side policies (reducing labour costs to stimulate employment and therefore growth) and their counterpart on the demand side (increasing wages or public-sector employment to stimulate growth and therefore employment). In their review of Okun's Law literature, Demailly et al. (2013: 56) conclude that "for a large swathe of the related literature, it is not much growth that creates employment but employment that creates growth." Indeed, economic growth may provide an impetus to employment but employment then often take on a momentum of its own, either positive or negative, via the positive feedback loops described earlier.

In the end, Okun's Law is not an absolute governing principle, if only because the relationship varies considerably between countries and periods – as Goodwin et al. (2014: 202) put it, "[it] is best regarded as a rule of thumb rather than a 'law.' " The fact that the relation varies from place to place suggests that there exist factors that either intensify or diminish its strength. Countries with a low output-employment elasticity (i.e. with a sensitive relationship

[1] The labour force participation rates is calculated as the labour force divided by the total working age population, conventionally people aged 15 to 64 (OECD, 2017).

between the two variables) are more dependent on growth for jobs than countries with a high output-employment elasticity such as Japan, the latter being able to keep unemployment stable during long periods of low or negative GDP growth.

A first set of socioeconomic factors affecting the strength of the relationship consist of (a) the cost of labour, (b) the labour force participation rate, (c) hours worked per employee, and (d) changes in labour productivity. As we have seen in the previous chapter, most OECD economies have stagnant and ageing populations and experience decelerating rates of technological change. On the other hand, the price of labour is increasing[1] (Eurostat, 2017). If the effect of (b), (c), and (d) is stronger than (a), then low growth may become more tolerable from an unemployment perspective.

Let us illustrate with the case of France. The French population grows at 0.4% annually but the labour force participation rate is stagnant with an annual average decline in hours worked of -0.15% per year (-1.5% between 2008 and 2018). Labour costs are increasing at about 0.8% per year (a cumulated 5% rise in the last 6 years) and labour productivity at a slightly faster pace of 1.3% (+8% in the last 6 years) (OECD, 2017). The trends shown by those factors mean that, all else unchanged, France would not manage to have GDP reductions without increases in unemployment.

But *all else* must not necessarily be *unchanged*. The second set of factors are political and relate to specific governmental strategies such as shifting taxation from labour to resources and capital, subsidies granted for hiring and subsidised short-time work programs, increasing the flexibility of wages as to encourage firms to decrease wages during a recession instead of dismissing workers, public employment and job guarantee programs, and work time reductions as to share the available work positions among more people (Antal, 2014: 281-82). These social interventions facilitate job creation, and this regardless of GDP trends.

Japan is a unique example of a secularly stagnating advanced economy and a perfect case study to further test the validity of the Okun's Law. Contrary to Okun's original assumption, Japan has experienced two decades of stagnant GDP whilst maintaining a low unemployment rate. Between 1992 and 2011, average GDP growth in Japan was 0.77% while unemployment went from 2.2% to 4.5% (with peaks at 5% in 2000, 5.5% in 2003 and 2009) (Statistics Bureau of Japan, 2014; World Bank, 2014).

How did Japan manage to keep unemployment low? Explanations include a low rate of job separation (firing) due to cultural reasons and the deregulation of the labour market with the introduction of short-term contracts and more flexible redundancy procedures (Demailly et al., 2013: 55); a high share of informal lifetime employment contracts (Ono, 2010); a decline in the length of the work-week and low productivity growth (Hayashi and Prescott, 2002). Japan is a good example showing that in some cases, cultural and political factors are strong enough to shape how growth affects employment. It is "ultimately society, [and] not the economy, [that] determines how many people are out of work" (Dietz and O'Neill, 2013: 127).

Okun's "law" was only devised to predict trends in the short-run unemployment following the economic cycle. Another concern is the build-up of long-term or structural unemployment. However, this rate does not directly depend on economic growth. Aghion and

[1] The cost of labour is estimated with the Labour Cost Index (LCI), which measures "the total hourly costs incurred by the employers of maintaining their employees" (Eurostat, 2017).

Howitt (1994) explain that in a fast growing economy, there is job destruction in the least productive sectors alongside job creation in the more productive sectors. The problem arises when people losing their jobs in the dying sector cannot find a new position in the booming one. In that situation, it is the structure of the labour market that determines the level of unemployment. Over the long term, it is variables such as the levels of education and access to training and career development that determine unemployment and not growth rates (even though the two aspects are not independent).

Economic growth and quality of employment

People do not only want jobs; they want decent jobs. The quality of work is determinant for employment to contribute positively to well-being and there is in fact little use in creating employment if employees end up finding their work lives "inadequate, incomplete, degrading, pointless, stupid, and oppressive" (Carlsson and Manning, 2010: 925).

Job quality is multi-dimensional and goes way beyond wage level and the mere fact of being employed (Muñoz de Bustillo, 2012; Dahl et al., 2009; Green, 2006 cited in Leschke et al., 2012). For Steger et al. (2012), meaningful work encompasses skill variety, opportunity to complete an entire task, task significance in the eyes of others, pride, engagement, sense of calling, challenge, and intrinsic work orientation. Frayne (2015: 63) describes meaningful work as "work in which people are allowed to carry out tasks in accordance with their own technical, aesthetic and social criteria, to work in accordance with their own ideas of efficiency, beauty, and usefulness" (this is the concept of *autonomous work* I will present in Chapter 10).

Attempted measured of job quality vary across institutions. It is "fair wages, protection against health risks at work, workers' rights to assert their interests and to participate, family-friendly working arrangements and enough jobs" for the European Union (2007); "earnings quality, labour market insecurity, and quality of working environment" for the OECD Job Quality Framework (2014); and "wages, non-standard forms of employment (inverted), working time and work-life balance, working conditions and job security, access to training and career development, and collective interest representation" for the Job Quality Index (Leschke et al., 2012).

Looking at the Job Quality Index (JQI) over the 2005-2010 period, France has experienced the second largest decline in overall job quality among the EU27 with significant deteriorations in working time and work-life balance, working conditions and work security, and skills and career development (Leschke et al., 2012: 22). This decrease in the quality of work has most affected the youngest and oldest workers, as well as the ones with low levels of education (Erhel et al., 2013). The JQI study also pointed to a strong correlation between the quantity of available jobs and people's anxiety to lose theirs, as well as the absence of a correlation between quality of employment and wages (Leschke et al., 2012: 22).

Faced with those empirical results, the authors of the study (ibid. 20) offer two hypotheses to explain how the relation between economic growth and job quality behaves in times of crisis. First, unemployment rises and the bargaining power of employees weakens, which negatively affects the quality of existing jobs (*bargaining power effect*). Second, the fact that poor-quality jobs are more affected pushes up average national job quality (*compositional effect*). Although they describe the relationship as statistically weak, the authors conclude that

the nations which have seen stronger falls (or weaker increases) in the unemployment rate have been those in which measured job quality has improved (or declined less). In other words, the bargaining power effect appears stronger than the compositional effect (ibid. 25).

One aspect of the JQI (*non-standard forms of employment*) has been particularly commented in its relation to well-being. Within the last decades, types of work differing from standard employment have proliferated, including temporary employment, part-time and low-paid employment, leading to the phenomenon of the so-called "working poor" (Pollitt et al., 2010: 29). Graeber (2013) goes further in qualifying certain types of mal-employment as "bullshit jobs," when people perform "tasks they secretly believe do not really need to be performed" at the expense of a profound "moral and spiritual damage." Those jobs, he argues, are especially present in newly created industries like financial services, telemarketing, corporate law, academic and health administration, human resources, and public relations. (This is an issue we will return to in Chapter 10.)

The employed population of many economies is increasingly polarised – e.g. Autor et al. (2006) and Autor and Dorn (2013) for the US, Goos et al. (2009) for Europe. This means that jobs requiring a moderate level of skills seem to disappear relative to those placed at each extreme end of the spectrum (high and low skills). Since the 1990s, higher-paid jobs have continued to grow faster relative to those in the rest of the wage distribution and this has been the case in recessionary and non-recessionary periods alike (Eurofound, 2017: 1).

This polarisation is the strongest in the service sector (7 out of 10 jobs), with a widening gap between the jobs at the top and those at the bottom of the wage distribution (ibid.). This explains why occupations such as "cleaners and helpers" and "drivers and mobile plant operators" find itself next to "ICT professionals" and "business and administration professionals" in the list of the twelve fastest-growing large-employing jobs in the European Union (ibid. 18). Whereas this is not telling us much about the quality of work in those jobs, this will have a determinant effect for economic inequality, the topic of the next section.

This part has sought to make three points. In the short term, conjectural unemployment correlates with economic growth. It is, however, affected – and sometimes even completely counterbalanced – by a range of socioeconomic and political factors. Second, economic growth does not directly impact structural unemployment in the long term as the quantity of people structurally out of work is determined by the structure of the labour market, education levels, and technological change. Finally, there is no trade-off between quantity and quality of employment as growth is blind to the quality of work. If economic growth creates jobs, there is no guarantee that these will be decent jobs.

Reducing inequality

Inequality is on the rise. Current trends point toward a surge of income and wealth inequality in the great majority of OECD nations (Alvaredo et al., 2018; Piketty, 2019). In France, the richest 10% of the population earns 8.7 times the income of the bottom 10%, with the 1% perceiving 6% of all incomes (OdI, 2019). Piketty (2019: 575) estimates that, in 2015, the

richest decide earned an average of 113,000 euros per year while it was €15,000 for the bottom half of the population.

While wage disparities remain small in average (1:3 between the best paid of the poorest 10% and the lowest salary of the top 10%), executive pay at the top has been soaring (ibid.).[1] And this trend has been worsening. The purchasing power of poorest 10% of the French population increased by an average of 2% between 2003 and 2013, while for the top decile, average income was multiplied by twenty (OdI, 2017b). Wealth disparities are almost always larger than the one in income (Piketty, 2013), which has always been the case in France (Piketty, 2019: 503). The richest decile owns about half of household wealth, with the upper centile claiming 17% of that share (OdI, 2019).[2]

Even in a country as rich as France, poverty remains. In 2016, there was 5 million people living with less than €855 per month[3] (50% of median income), which is 9% more than in 2006 (OdI, 2019: 8).[4] Measuring poverty at 60% of median income reveals that 13.6% of the French people are poor (OI, 2018: 43). In 2019, there were still more than 900,000 people without a home and 12 million others living in a precarious dwelling (Fondation Abbé-Pierre, 2019). The *Collectif Les Morts de la Rue* (the Dead from the Street Group, mt) estimates that 566 people died in the streets in 2018, a number that has been stable since 2013. In 2015, almost 5 million people have received food aid (DGCS, 2016) and a study over the 2005-2007 period found that 600,000 people (that is 0.9% of the population) considered not having enough to eat (Anses, 2009).

In the collective imaginary, economic growth is presumed to be a solution to both poverty and inequality. From this perspective, more GDP would harmonise the distribution of wealth and make the poorest better-off.[5] This assumption is perfectly captured in a 1972 statement by then governor of the American Federal Reserve Bank Henry Wallich: "Growth is a substitute for equality of income. As long as there is growth there is hope, and that makes large income differentials tolerable" (cited in Schmelzer, 2016: 140). Even if created wealth comes to increase inequality, it is argued that some of it will "trickle-down"[6] towards the bottom of the wealth distribution.

This question matters because economic inequality is associated with a variety of social maladies. For example, Wilkinson and Pickett (2009) find that people in less equal societies have relatively worse physical health and lower life expectancy (see also Kawachi and Kennedy, 2002), more drug problems, higher rates of teenage births and mental illnesses, lower levels of children well-being and educational performance, less opportunities for social

[1] One number to grasp the magnitude of wealth inequality in comparison to income inequality: the wealth of business magnate Bernard Arnault, the richest French individual, is estimated at 72 billion euros, which corresponds to 3.5 million years of earnings at minimum wage (Concialdi et al., 2019: 12).

[2] The French levels of wealth inequality look pale in comparison to the global gap between haves and have nots: Oxfam (2019) reports that 26 people own the same wealth as the bottom half of humanity (3.8 billion people).

[3] These thresholds change based on family structure: e.g. the 50% median income level goes up to 1,112€ for a single parent with one young child or 2,138€ for a couple with two teenagers.

[4] To these, one should also add the ones for whom there is no number (e.g. undocumented migrants, people living in the streets or hosted by others, communities of travellers) and others who are excluded from poverty measures (e.g. migrants in work centres, students, and inmates), the ones Beaud et al. (2006, mt) call the "invisible France."

[5] Sustainable Development Goal n°10 ("reduce inequalities within and among countries") provides a good example of this association in its first target ("By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average"), which is measured as a growth rate.

[6] This is the famous expression coined by David Stockman, Ronald Reagan's budget director. In France, President Macron uses a different analogy: it is the "*premiers de cordée*" (lead climbers) who are "pulling up" society as a whole.

mobility, and are more prone to violence and imprisonment. Although a fair share of those illths concentrate on the lower side of the distribution, inequality is also bad for the rich (Frank, 2007; Wilkinson and Pickett, 2009). Beyond evident ethical issues, economic inequality can also undermine the fairness of political institutions (Cagé, 2017),[1] generate greater economic instability[2] (NEF, 2016), or hinder innovation[3] (Madsen et al., 2016).

While inequality is more than an economic issue, I will here focus on the relation between economic growth and inequality, leaving the broader social-ecological analysis of inequality for Chapter 9. As for now, the purpose of this section is to examine whether GDP growth reduces levels of income and wealth inequality.

Economic growth and inequality

A widespread theory to describe the relationship between wage inequality and economic growth over time was developed by Simon Kuznets in 1955. Using statistical data for the United States, England, and Germany over a 35-year period (1913-1948), Kuznets plotted GDP against inequality and obtained a bell-shaped curve that came to be referred as a "Kuznets curve."

What this curve says is that inequality rises throughout the early stages of a country's industrialisation and decline in later stages of development. This is because when industrialisation starts, only a minority of the population gets access to a new, more productive sector. Because income per worker is lower in the "traditional sector" than it is in the "modern" one, wage inequality increases. But then the economy keeps "developing," which means it fully transitions from a traditional (agricultural) to a modern (industrial) economy. Past a certain threshold – referred to as the "Lewis turning point" (Lewis, 1954) – where all rural labourers have successfully migrated to an industrial job, the overall level of wage inequality starts to fall, at least in theory.

The Kuznets hypothesis has caused both agreement and critique. On the one hand, it has repeatedly been observed empirically (e.g. Frazer, 2006; Barro, 2000; Ram, 1995; Ogwang, 1995; Ahluwalia, 1976). On the other hand, Fields (2001) finds that while about 10% of country cases are consistent with Kuznets' inverted U, another 10% shows an ordinary U, with the remaining 80% exhibiting no statistically significant tendency at all. This gives credence to the argument that what matters about inequality is not the *rate* of economic growth but the *type* of economic growth (Pollitt et al., 2010: 27).[4]

The Kuznets hypothesis was beautifully demolished by French economist Thomas Piketty in the widely discussed books *Capital in the 21st Century* (2013) and *Capital and Ideology* (2019). After studying trends in inequality over several centuries, the author concluded that economic growth is not a guarantee of a reduction of wealth inequalities.

[1] Because wealthy people have more power to influence politicians through, for example, lobbying or campaign contributions – see, for example, Oxfam's (2014) report on "Working for the Few: Political capture and economic inequality."
[2] Because it makes people rely on debt to maintain their lifestyles and that an aggregation of wealth at the top increases risky financial speculation. Inequality has been argued to be one of the major cause of the Great Financial Crisis (nef, 2016).
[3] Because, as the authors argue, it prevents individuals from lower-income households from reaching their potential in terms of education and invention.
[4] To relativise this controversy, one should perhaps remember the conclusions of Kuznets' paper, where he wrote that his work was "perhaps 5 per cent empirical information and 95 per cent speculation, some of it possibly tainted by wishful thinking" (Kuznets, 1955: 26).

His main thesis runs as follows: when returns on capital (*r*) such as profits, interests, rents, and dividends are higher than the increase of earned income (wages) and production (*g*), the owners of capital increase their wealth faster than those who receive only the fruits of their labour, and so the inequality gap widens. In brief, when $r > g$, economic inequality increases. Inversely, when economic activity expands faster than the growth rate of capital, wages increase faster than rentier income, which thus narrows the inequality between wage earners and capital holders. One of the key empirical finding of Piketty is that *r* has always been higher than *g* in the history of modern capitalism, and that therefore the default trend in wealth accumulation is towards greater inequality.

In reality, however, State interventions and external shocks such as wars or recessions can alter the tendency of wealth to accumulate at the top of the distribution. This is why, the author argues, the history of inequality is fundamentally political and not purely economic (ibid. 47). This concurs with Stiglitz's (2012: 28) study of inequality in the United States, especially when he affirms that "American inequality didn't just happen. It was created." Public policy is the determinant factor when it comes to the level of inequality, a view that concurs with Kuznets, who himself did not believe that the decrease in inequality in the later stage of economic development would be automatic, but rather that it would depend on the strength of trade unions and of the welfare state (Chang, 2014: 393).

As for the "trickle-down" hypothesis, it is nowhere to be seen. As Piketty et al. (2018) report for the United States, the income per adult of the lower half of the income distribution is at the same level today as it was in 1980, that is $16,000 (adjusted for inflation). In contrast, the income of the rich has drastically increased: +300% for the top 0.1%, +450% for the top 0.01%, and +600% for the top 0.001% (the 2,300 richest American households).[1] Similar situation in France where between 1998 and 2005, the 0.01% of richest households has experienced an increase in real income of 42.6% while it was only 4.6% for 90% households down the distribution line (Giraud and Renouard, 2016: 28).

Not only do the richest capture most created wealth, but they keep it. As Piketty (2013) documents, *r* (returns on capital) increases with the quantity of accumulated capital (read: wealth) because large capital holders benefit from better financial management services and are more prone to taking risks (Piketty, 2013: 687). This creates a positive feedback loop of wealth concentration at the top: the more capital owned, the higher the rates of return, the larger the capital and so on.

Piketty's theory suggests that low rates of growth with an unchanging rate of return on capital would widen the gap between capital and labour, and result, all other things being equal, in more inequality. But again, *all other things* must not necessarily *be equal*. Using the Stock-Flow Consistent (SFC) model SIGMA,[2] Jackson and Victor (2016) identify a factor that can enable lower inequality alongside a decreasing growth rate. For the authors, the most important parameter determining the relationship between growth and inequality is the elasticity of substitution between labour and capital (i.e. the ease with which it is possible to substitute capital for labour in the economy as relative prices change).

[1] In the US, labour productivity increased by 85% since 1980 but wages rose by only 35% (Ellwood, 2014: 98). Going back to 1970 and until now, GDP almost tripled (+260%) while average pay only increased by 20% (Brynjolfsson and MacAfee, 2014: 148-49 cited in Arnsperger and Bourg, 2017: 17).

[2] Savings, Inequality and Growth in a Macroeconomic Framework (SIGMA).

When it is easy to substitute capital for labour, then a weak growth exacerbates inequality, but when it is more difficult, the impact weakens. In an economy with low or zero growth rates but with a strongly inelastic substitution between labour and capital, there are limited opportunities for capital to be put into a profitable use while wages are likely to stay high. The situation is similar to the one of employment: countries where it is more difficult to substitute capital for labour have a greater output-equality elasticity than countries where it is easier to do so (i.e. the rate of inequality will be less sensitive to variations in economic activity). In plain language, sectors where workers are indispensable (in contrast to sectors where the work can be done by machines) are less prone to experience unemployment during times of low growth.

Inequality and economic growth

Economic growth widens inequality, but what about the opposite relation? A last question of relevance for this section concerns the opposite direction of the relationship, namely the influence of inequality on growth: Does inequality impair or augment economic growth? [1]

In theory, there are at least four reasons why greater inequality might negatively affect growth. First, inequality can reduce social cohesion and political stability (voters strike and protest to push for higher taxation and regulation), those social disturbances then discouraging investment on the business side – this refers to the "endogenous fiscal policy" theory (see e.g. Alesina and Rodrik, 1994). Second, the participation of the poor in crime and other antisocial actions is wasted resources because the time and energy of the criminals are not devoted to productive efforts (Barro, 2000). Third, it can act as a barrier to social mobility by creating under-education traps. The "human capital accumulation" theory (Galor and Zeira, 1993) affirms that poorer segments of society under-invest in their education and skills because of financial constraints (savings and access to credit), which reduces potential growth. Finally, a greater concentration of wealth in higher-income households would result in less consumption because marginal propensity to consume decreases with income – this is the argument advanced by Stiglitz (2012) in explaining how inequality impeded economic recovery in the US after the crisis.

On the other hand, competing hypotheses have been put forward to explain how greater inequality might achieve the opposite, namely stimulate growth. Inequality creates incentives for harder work, more education, and risk taking, thereby increasing productivity (Lazear and Rosen, 1981; Mirrlees, 1971). A wider gap between rich and poor may encourage wealthy people to engage in rent-seeking and predatory activities at the expense of the vulnerable, for example, predatory lending and abusive credit card practices (Bénabou, 1996).[2] And lastly, because the wealthy save and invest a greater share of their income (economists say they have higher propensity to save), a more unequal society would invest a greater share of its overall wealth and thus enjoy higher growth rates in the long run (Kaldor, 1956).

[1] This question is of little importance if one considers extreme inequality to be an illth whose social adverse effects are already sufficient to justify its eradication. And yet, the question must be explored because a positive relationship between inequality and growth coupled with earlier findings of a positive opposite relationship between growth and inequality could create a vicious cycle where more inequality creates more growth, which creates more inequality and so on – a situation that is surely worth avoiding.

[2] Of course, such practices have limits, as exemplified during the Global Financial Crisis.

How to know who is right? In his review of the empirical literature on the topic, Cingano (2014: 12) concludes that there is no consensus on the sign and strength of the relationship. Yet, drawing on harmonised data covering the OECD countries over the past 30 years, the author finds in his own study that income inequality has a negative and statistically significant impact on growth (between 1985 and 2005, increased inequality cancelled an hypothetical 4.7 points of GDP growth). The reason has to do with an education and training trap where people at the bottom of the income distribution consistently lack opportunities to contribute to economic growth via employment and consumption.

A potential compromise between the two views is offered by authors such as Galor and Moav (2004) and Galor and Zeira (1993) who argue that inequality fosters growth at the early stage of development when economic growth is driven by physical capital accumulation and hamper it at a later stage when economic activity predominantly depends on human capital accumulation. Considering the situation of the economies studied in the present dissertation (early industrialised economies whose accumulation mostly relies on human capital), the view that inequality harms growth then prevails.

This section on inequality and growth has produced two main insights. First, there is no direct causality between the two, let it be for income or wealth. Economic growth can decrease inequality as much as it can increase it, with empirical evidence over the last decades rather indicating the latter. It follows that GDP growth should not be considered as a substitute for redistributive policies. Second, inequality limits economic growth in several ways, for example by lowering demand, threatening socio-political stability and further discouraging investment, or by limiting potential education levels.

Improving well-being

It is generally accepted wisdom that even though money does not buy happiness, it can buy the things that secure it. More choices and opportunities, better healthcare, education, and housing, the ability to opt out from working, to travel, and to purchase whatever commodities one prefers. From this perspective, a larger income seems to pave the road to a happier life.

If economic growth translates into additional purchasing power, then it should positively contribute to well-being. Except it is not as simple. The relation between economic growth and subjective well-being is far from being causal, with a so-called "income-happiness paradox" pointing to the tendency of the benefits of GDP on well-being to falter after some point. Past this threshold, economic growth leaves welfare unchanged. And under certain circumstances, it can actually endanger it.

The income-happiness paradox

The interaction of subjective well-being studies with economic growth dates back from the publication of Richard Easterlin's seminal article, *Does Economic Growth Improve the Human Lot? Some Empirical Evidence* (1974). Easterlin presented 30 surveys in 19 different countries showing that although there was a positive correlation between income and subjective well-

being, reported levels of happiness did not increase in line with income levels over time. This situation where societies become richer without an increase in well-being came to be referred to as the "income-happiness paradox," the "Easterlin Paradox," or more recently the "well-being paradox" (Lintsen et al., 2018).

In the following decades, this finding was supported by various empirical studies,[1] some even proposing a numerical value for that threshold.[2] In the latest study in date, Fanning and O'Neill (2019) look at 120 countries over the 2005-2015 period and confirm Easterlin's results. The happiness paradox was also challenged by a fewer number of authors,[3] mostly on methodological grounds (one of the recurring criticisms is that a bounded scale plotted against an unbounded one necessarily diverges after some point).

Two main theories have been proposed to explain the Easterlin paradox: *habituation* (hedonic treadmill) and *social comparison* (positional treadmill). The crux of the argument is that after a certain threshold, it is relative income that determines subjective well-being, and not absolute levels. Happiness, therefore, becomes a matter of matching levels of income and consumption with people's past (habituation) and people's peers (social comparison).

Explanation 1: habituation

For Easterlin himself, rising aspirations were the major cause of the paradox of happiness. Aspirations are continuously rising because customers become accustomed to new standards of comfort and performance. Brickman and Campbell (1971) described this habituation effect with the metaphor of the "hedonic treadmill" where every increase in consumption and income steps up the perception of what level is satisfactory. The additional income of a promotion or a lottery prize increases happiness as it enables people to purchase more goods and services, but the joy of additional consumption quickly dissipates as people adapt their desires to this new level of comfort – "yesterday's luxuries can soon become today's necessities and tomorrow's relics" (Myers, 2000b: 60).

In *The Joyless Economy* (1976), Hungarian economist Tibor Scitovsky explained the source of this habituation by defining pleasure as a phenomenon experienced in the movement from discomfort to comfort. Because people enjoy novelty, they experience pleasure by consuming goods that provide various kinds of not previously experienced comfort. One enjoys a new, better bike for a while until the novelty wears off; as time passes, the bike can only be compared to itself, and so it ceases to be *better*. What matter is not the bike and what it can do, it is how much it performs compared to whatever is it compared to (Eysenck 1990).

When asked how much income they believed was necessary to "fulfil all of their dreams," Americans answered $90,000 in 1996 when it was only $50,000 in 1987 (Bok, 2010: 13 cited in Göpel, 2016: 70). Even the super-rich habituate to super-wealth: the 165 American households surveyed in "The Joys and Dilemmas of Wealth" project, owning $78 million in

[1] For example, Inglehart, 1996; Diener and Suh, 1997; Kenny, 1999; Frey and Stutzer, 2002; Easterlin, 2005; Layard, 2005; Diener et al., 2006; Frey, 2008; Dolan et al., 2008; Graham, 2009; Brockmann et al., 2009; Easterlin et al., 2010.
[2] $7000 per person per year for Kubuszewski et al. (2013), $10,000 for Frey and Stutzer (2002), $15,000-20,000 for Max-Neef (1995), $20,000 for Layard (2005), $25,000 for Wilkinson and Pickett (2011), and $75,000 for Kahnemann and Deaton (2010).
[3] Helliwell, 2003; Stevenson and Wolfers, 2008; Stevenson et al., 2008; Deaton, 2008; Blanchflower, 2008; Veenhoven and Vergunst, 2014. Even though the magnitude of the happiness-income relationship remains small, e.g. only 0.003 points on a 0 to 10 life satisfaction scale per additional 1% of GDP (Veenhoven and Vergunst, 2014).

average, confess that they would require about one-quarter more to feel financially secure (cited in Wood, 2011).

If some want to become millionaires, the millionaires themselves want to be billionaires, and so on. Living standards become like a drug: once you have experienced a new sophisticated bike or a far-away holiday, you lose your ability to enjoy the similar experiences that are considered slightly less exciting. In *The Joyless Economy*, having more inflates expectations up and makes you need more in order not to be bored.

In the short-term, the change is irreversible as people habituate to upper levels of comforts but feel dissatisfied with lower ones – even though they eventually adapt to anything in the longer term. Going from publishing one paper a year to two papers a year will add to my pleasure, but I will eventually get used to this number of publications and my pleasure will return to its normal level. Stepping back to publishing only one paper will bring down my well-being – even though it makes me happier than publishing none. When it comes to wealth, it means that the minimum income deemed necessary for a person increases as they earn more (van de Stadt et al., 1985). Because economic growth rates tend to slow down as countries increase their income per capita (the secular stagnation from last chapter), individuals are unable to match the growth levels of their purchasing power in the past.

While this theory is mainly psychological (the competition occurs within a single individual, between their past and present levels of income or consumption), the second explanation extends the analysis to the sociology of consumption.

Explanation 2: Social comparison

Although we habituate to changes in our own levels of consumption, we sometime struggle to do so when it comes to the consumption of others. In *The Theory of the Leisure Class* (1899), Thorstein Veblen argues that people consume not only to meet direct needs but also to earn and display social status, engaging in what he called "conspicuous consumption."

Take high fashion, for example. Expensive clothing from renowned designers are purchased and worn with the intention of impressing others. For Veblen, the social appeal for those products do not come from their intrinsic quality (or at least it is not the most determinant aspect), but solely from the social status associated with their ownership (i.e. from the impression it makes on someone's social network). Prestige can be bought. Without having to speak, I can communicate that I belong to such a social group by consuming products and services that are usually consumed by the people already belonging to this category.

Because people exhibit who they are through what they buy, they tend to believe that they *are* what they *have*: "Our sense of self and powers in the world are partly defined by the goods we possess and use. Goods are exosomatic extensions of our physical, social, and psychological existence" (Booth, 2004: 21). In Freudian psychoanalysis, it is because people invest emotional energy into objects (i.e. charge them with meaning) that they perceive material possessions as part of their extended self. The principle of existence of "*Homo consumens*" (Fromm, 1976: 172) is: I consume, therefore I am.

If Veblen is right and people consume to display personality and status, what is the impact of this consumption on the people witnessing it? In *Income, Saving, and the Theory of Consumer Behavior* (1949), James Duesenberry talks of a "demonstration effect" to describe

how a family's consumption is influenced by the purchases of their neighbours (the proverbial "keeping up with the Joneses"). Examples of this effect extend to all types of consumption (the size of a house, the number of cars, or the prestige of an academic journal) where I would adjust my levels to the one of a reference group, namely the people I want to be like and whose opinions I care about. If the people in my frame of reference increase their consumption (in their personal quest to secure social status), I will feel obliged to increase mine to not feel inferior. Because one usually sees a frame of reference in others who consume more, the demonstration effect creates an overall logic of increase where everybody always feels obliged to consume up the social ladder.

In certain situations, the motivation differs: one does not consume up to imitate the upper class (the Bandwagon effect) but rather to differentiate oneself from the lower class (Snob and Veblen effects). This imitation and/or differentiation game becomes problematic in situations where economic inequality is high and visible. Inequality creates a situation of "trickle-down consumption" (Bertrand and Morse, 2013) or "expenditure cascade" (Frank et al., 2014) where the consumption of the top income earners inspires emulation from lower income groups. This is enabled by the media who exacerbate the moving upward of reference groups by showcasing the lifestyle of the wealthy, often in a romanticised manner. For example, Bruni and Stanca (2005) find that watching television raise material aspirations and makes people less satisfied about a given level of income. What this creates is dissatisfaction for the people who are failing to keep up with groups whose levels of income and consumption are beyond their means.

In *The Social Limits to Growth* (1976), Fred Hirsh expanded on Veblen's and Duesenberry's ideas and describes the search for status as a demand for "positional goods." The "positional economy" refers to "all aspects of goods, services, work positions, and other social relationships that are either scarce in some absolute or socially imposed sense or subject to congestion or crowding through more extensive use" (Hirsch, 1976: 27). Essentially, the pleasure that someone can derive from a positional item depends not on their own level of consumption but on the levels of others. The Nobel Prize is a source of prestige only because it is attributed to few people; it is that distance between the ones who have it and the ones who do not that makes it precious in the positional economy.

Kallis (2014: 137) illustrates this phenomenon using luxury cars as examples of status goods: "If everyone had a Ferrari, then a Ferrari would no longer be a 'Ferrari.' It would be the equivalent of a Fiat Cinquecento, a car of the masses." This logic equally applies to non-material items: If everyone published in the prestigious journal *Science*, then a publication in *Science* would no longer be a source of distinction. The value of a Ferrari or a publication in *Science* cannot be augmented forever as it originates from their scarcity or the fact that not many people own one. The more people are able to afford them, the less effective they become as means for demonstrating status. It is therefore its social context and not its intrinsic qualities that determine how much satisfaction a person gets from a given act of consumption. The paradox of the positional economy is that what is affordable for everybody has no value for anybody.

Status consumption is a societal zero sum game because each individual strives to gain advantage, but since all are trying to do so, all remain in the same relative position. "Positional goods or status goods increase happiness only at the expense of someone else consuming less

of that good and the gains of happiness to one individual are cancelled out by the dissatisfaction to another" (Binswanger, 2006: 368). As noted by Frank (1985), positional consumption turns into a "positional treadmill" because displaying status to others via the consumption of positional goods is a dynamic process where continuous efforts are required just to preserve one's current position. In order to be considered a "good" researcher (i.e. in order to maintain my relative position as a better researcher than the ones who publish less than one paper a year) I must publish at least one paper a year. Should all the scholars who previously published less than me decide to publish as I do, I would need to increase my publication efforts just to remain where I previously was – the treadmill just picked up speed.

I now arrive at my main argument, namely why this consuming war of all against all constitutes a social limit of growth. Essentially, the positional economy renders the pursuit of additional economic growth meaningless; this is because the quest for social status is a zero-sum game where the gain of some are the losses of others. People down the social ladder want to work more to earn more so they can gain social status through material and experiential consumption. This increased working time and consumption would then contribute to growing economic activity. On the supply side, producers have incentives to provide novel items, which speeds up the treadmill. As more people get access to money, they can join in the status game by consuming positional goods. In the end, the struggle for prestige can continue unabated as long as people treat the consumption of commodities as a form of competition.

As it should be clear now, the problem is that, as famously stated by Hirsch (1976: 5), "if everyone stands on tiptoe, no one sees better." The more positional an economy is, the less effective economic growth is at raising well-being. If only relative, and not absolute, wealth matters, then after a certain point more money can no longer improve well-being. We have come full circle, then, to the situation with which we began: money cannot buy happiness.

Quite the opposite, it can in fact translate into an inflation of positional goods and services that exacerbates economic inequality. When people fall off the positional treadmill after, for example, losing their job, the more purchases are socially expected of them, the more difficult it will be to climb up the ladder and the more likely they will be to feel unhappy. As phrased by Easterlin (1974: 121) in the last sentence of his foundational article: "economic growth does not raise a society to some ultimate state of plenty. Rather the growth process itself engenders ever-growing wants that lead it ever onward."

Economic growth versus happiness

Not only is economic growth not increasing happiness, but it can, under certain circumstances, even impair it. This part present four explanations of why this can be so: the paradox of choice (Schwartz, 2000), corruption by commercialisation (Sandel, 2012), the perils of materialism (Kasser, 2002), and the manufacturing of disappointment (Gunderson, 2016).

The paradox of choice

If economic growth is an expansion of the commodity domain, it means that the number of options to spend money grows as well. Because for-profit firms want to please their customers, they increase the diversity of the products available to them. This gives rise to a "multi-choice" (Breedveld and van den Broek, 2003) or "multi-option society" (Gross, 1994 cited in

Binswanger, 2006). But if a few more options is desirable, a few hundreds more is not. This is the central idea defended by American psychologist Barry Schwartz (2000, 2004): the widening of purchasing possibilities have a negative impact on people satisfaction, a situation he called "the paradox of choice."[1]

Binswanger (2006) proposes two reasons to explain the paradox. First, the more and better options exist, the more and better options have to be given up whenever a choice is made, a circumstance leading up to what could be called the *opportunity cost syndrome*. The opportunity cost syndrome is the lowering of the satisfaction derived from a chosen product due to an awareness of the potential satisfaction associated with alternative options. It is basically the fear of missing out applied to consumption: What if *the other* option was actually better than *this* one? A diversity of options can create sentiments of "post-decisional regret" or "post-choice discomfort" where consumers feel discomfort and regret concerning all the options that they have not taken (ibid. 373). The wider the range of commodities available to buy, the stronger the opportunity cost syndrome.

Second, the paradox of choice occurs because consumers are limited in their ability to gather and evaluate information about different options. Have you ever tried to watch a film on Netflix? Picking one among a thousand available options becomes an activity of its own. While the diversity of products increases, the time available to find information about them and to process it as to make the best choice possible is not – as the adage goes: "so many options, so little time." As the number of options augments, the search costs (the effort and time required to make an optimal choice) escalate as well (Schwartz, 2004).[2] The more options, the more consumers are prone to make non-optimal decisions and be frustrated.

The paradox of choice becomes even more problematic in societies where most goods and services are commodified and positional competition fierce. With a wider range of choice, not only does it become possible to outdo others *quantitatively* (I have a car, you don't), but also *qualitatively* (I have a Tesla, you only have a BMW i3). That is when positional competition turns into social anxiety, and economic growth into a hectic race to the top of the pile that disappoints more people than it satisfies.

Corruption by commercialisation

The term "commercialisation effect" comes from Hirsch's *The Social Limits to Growth* (1976). His claim is that the satisfaction one derives from something depends whether that thing was bought or obtained otherwise via gifts, reciprocity, or mutual obligation.[3] For instance, and this is his example, the act of buying the services of a sex-worker may lower the satisfaction one would have otherwise enjoyed having sex without having to pay for it.

In *What money can't buy* (2012), political philosopher Michael Sandel claims that it is the logic of buying and selling that is responsible for the loss of satisfaction. You cannot buy

[1] Anyone who has ever had to choose one film among thousands on Netflix has experienced this paradox.
[2] "The more options exist, the more time has to be spent on gathering, filtering, and evaluating information in order to choose among an increasing number of options. But even if we manage to collect all the relevant information, there are many situations, where we are still unable to make optimal decisions due to a mental accounting constraint that is due to the lack of a proper mental evaluating system to assess the potential contribution of particular options to our happiness" (Binswanger, 2006: 373).
[3] "a 'commercialization effect' – meaning the effect on satisfaction from any activity or transaction being undertaken on a commercial basis through market exchange or its equivalent, as compared with its being undertaken in some other way" (Hirsch, 1976: 85).

friendship because buying friendship makes it not friendship anymore. The author talks of "corruption": "we corrupt a good, an activity, or a social practice whenever we treat it according to a lower norm than it appropriate to it. So, to take an extreme example, having babies in order to sell them for profit is a corruption of parenthood, because it treats children as things to be used rather than beings to be loved" (ibid. 46).

When the realm of commodity expands, it does so at the expense of a diversity of non-economic amenities that do contribute more to well-being than their "corrupted" market substitute. One could then say that Airbnb *degraded* or *corrupted* the sense of hospitality that was present on Couch Surfing or that Uber did the same for hitchhiking.

And this is not only true about consumption but about production also. Looking at blood donations in his landmark study *The Gift Relationship* (1970), Richard Titmuss was one of the first to show that financial incentives can crowd-out other non-economic motivations. Offer a monetary reward for blood and people will stop giving – the turning of blood donation into an act of exchange degraded what used to be disinterested sharing.

The perils of materialism

In *The High Price of Materialism* (2002), American psychologist Tim Kasser brings another argument to explain why economic growth can sometimes be counter-productive in improving collective welfare: the fact that materialism has damaging psychological and sociological effects.

Beyond the point of ensuring adequate food, shelter and clothing for survival, material possessions do not contribute significantly to well-being because they fail to fulfil higher needs such as competence, self-esteem, connectedness, autonomy, and authenticity. Instead, the pursuit of income and consumption lock people into a work-and-spend cycle that leaves little opportunity to pursue goals that could actually make them happy. A day is only 24 hours and so hours spent working for an income to afford commodities are hours not spend with family and friends. Furthermore, possessions require time for maintenance (e.g. fixing, insuring, parking, cleaning, and worrying about a car), often involving the purchasing of additional commodities. Put another way, "shopping for self-fulfilment" (Paech, 2012: 11) is literally a waste of time as far as well-being is concerned.

According to Kasser (2002), people who focus predominantly on materialistic values have lower personal well-being (experience of pleasant emotions over unpleasant ones), psychological health (depression, anxiety) and physical health (headaches and stomach aches), as well as problems with substances such as cigarettes, alcohol and drugs than those who place lesser emphasis on them. In addition, materialistic people tend to display less pro-social values and be more narcissistic, manipulative (treat others as objects), and competitive. In the end, even though acts of material consumption may result in temporary improvement of mood, individuals who value materialism bear the costs of these ideals psychologically and socially with repercussions on their communities and the environment. In short, "the more materialistic values are at the centre of our lives, the more our quality of life is diminished" (ibid. 14).

The manufacturing of disappointment

Reading Tim Kasser's *The High Price of Materialism*, one is left wondering about the underlying reasons behind the maladies attributed to materialism. Applying Schopenhauer's notion of the will, American sociologist Ryan Gunderson (2016: 4) offers a potential answer. The consumer society commodifies, not only of objects, but also desires. Consumer society is either desiring objects available in the marketplace (e.g. "I want to go shopping") or lacking commodities to desire, that is, subconsciously waiting for the arrival of new commodities of willing (e.g. "I wish I had something to shop for").

Even before a commodity is bought, it has already started to create dissatisfaction for one longs to have it and suffers through work and impatience until one does so. The introduction of a new commodity generates dissatisfaction and toil until its consumption is made possible, then leading to disappointment, boredom, and eventually the desire of another new commodity. "[C]onsumption is merely a brief absence *from* the will to consume; the *anticipation* of the consumption or attainment of a given commodity of willing will likely result in disappointment and new commodities of willing will soon replace or supplant the initial willing, making the given commodity of willing antiquated, resulting in more dissatisfaction and toil" (Gunderson, 2016: 8, italics in original).

At the source of this vicious circle: for-profit businesses who manufacture this deficiency, void, or desire via marketing, planned obsolescence, and the constant churning out of new products.[1] In a growing economy, especially one where the commodity domain is expanding, people are more likely to find themselves toiling for a consumption that brings little joy and much dissatisfaction.

Like a pendulum swinging back and forth between pain and boredom, individuals experience the increasing diversity of available commodities with either boredom or disappointment, both unable to raise their levels of subjective well-being. "Consumer society is in a sustained infantile state not unlike that of a child's on the night before Christmas: restlessly awaiting, anticipating and expecting something greater than the next morning actually delivers" (Gunderson, 2016: 8).

In this section, I made two claims about the relation between economic growth and happiness. First, that the *goods* life is not necessarily the *good* life (Schor, 2007). After a certain threshold, the increase in standards of living abides by Gossen's First Law and ceases to contribute to subjective well-being (happiness paradox). This is explained psychologically by the fact that one recurrently habituates to new levels of comfort (hedonic treadmill) and sociologically by a phenomenon of positional competition where individuals compete against each other in a zero-sum game for prestige (positional treadmill). The second point is that economic growth can even directly lower levels of well-being by creating social anxiety over status, overwhelming consumers with options to choose from, drawing people away from the activities that make them happy, and administrating desires towards dissatisfaction.

[1] "When a company fashions a new commodity, it is no longer just producing a useful, 'ordinary sensuous object' to meet vital human needs, was Marx identified; nor is it simply producing exchange values. It is also manufacturing a *lack* or a deficiency, void or desire. The commodity produced is also a commodity of willing or a commodified object of desire" (Gunderson, 2016: 4, italics in original).

Conclusions for Chapter 4

THE correlation between economic growth and employment, equality, and well-being is less causal than is commonly assumed.

In the short term, GDP is positively correlated to the quantity of employment, yet the strength of this relation strongly varies between places and time periods while its directionality remains a matter of controversy. When it comes to the long run, the link simply disappears as structural unemployment is caused by socioeconomic factors unrelated to economic growth. In addition, there is no correlation between GDP and the quality of employment.

As for inequality, economic growth actually widens the gap between the rich and the poor. This is what is currently observed in the economies concerned by the current thesis. Yet, this increase in inequality is by no means inevitable – even in the context of declining growth rates – and can be countered by political interventions.

Because well-being is adaptive and positional, the increase of average income leaves average happiness unchanged. Growth is just another typical fallacy of composition: its pursuit as to satisfy positional wants is "smart for one [but] dumb for all" (Frank, 1999: 161). Economic growth can even create dissatisfaction when consumers are faced with an overwhelming diversity of products to choose from, where the logic of money comes to corrupt social relations, when material possessions become a distraction, or when disappointment is manufactured into products by firms eager to sell.

The findings of this section challenge the "fantasy of prosperity-through-growth" (Varvarousis, 2019: 504): the common belief examined at the beginning of the chapter that economic growth is necessary to achieve social welfare. This is, in my view, the strongest objection to economic growth. If increasing GDP does not lead to desirable social outcomes, why should we even bother?

Conclusions

Farewell to the Growthocene

THIS study of the social and ecological life of growth has sought to make a number of points. First of all, economic growth is a more complex phenomenon than it is commonly believed. Culturally, growth can be seen as a necessity (growing *out of* something), a promise (growing *towards* something), or a protection (growing *away from* something); it can be treated as a force to be tamed or a weak fire to be cared for; an anomaly to be explained or a taken-for-granted feature of everyday life. Behind the deceptive simplicity of a thermometer metaphor, the phrase "economic growth" hides a diversity of social and ecological situations. Gross Domestic Product (GDP) is both shaped by and giving shape to values and practices, and ultimately affecting relations between humans and the world around them.

The second finding is that, to borrow a phrase from French poet and philosopher Paul Valery (1871-1945), "the time of the finite world is beginning." Indeed, the expansion and intensification of market economies is increasingly limited on three accounts. Economic growth is no longer ecologically viable because of the rarefaction of natural resources as well as the disruption of nature's contributions to people it systematically engenders (the economy is embedded in nature). Even if it were ecologically viable, the socioeconomic factors which the GDP economy relies on to thrive are less and less likely to enable it to do so (the economy is embedded in society). And even if it were both ecologically *viable* and socially *plausible*, further monetary accumulation would still not be *desirable* because it would fail to achieve – or even come to endanger – societal prosperity.

This diagnostic runs opposite to what is generally believed: there has been decoupling of growth from jobs, equality, and well-being, but little or no decoupling from environmental impacts. In the wake of dreams of green and inclusive growth, one faces the reality of a growth that is jobless, divisive, and depressive, and that destabilises communities and ecosystems. Essentially, the main thesis of this opening part is not that economic growth has failed to improve standards of living since its inception at the beginning of the Industrial Revolution, but that affluent societies have little or nothing to gain – and much to lose – from pursuing more

GDP growth in the future. In other words: economic growth has become more of a problem than a solution.[1]

Economic growth can be compared to the performance of a marathon athlete who is limited by food, water, and oxygen (*biophysical limits*); external infrastructure such as muscles, bones, ligaments, and internal infrastructure such as confidence, knowledge, and training (*socioeconomic limits*); and the happiness, money, and pride that would result from winning the race (*social limits*). In light of the evidence covered in this part, pursuing economic growth in affluent nations would be like an old pensioner with declining physical and mental health running a marathon with ever decreasing nourishment and no prestige whatsoever to gain from a potential success.

Today, economic growth as an idea is that bad. The growth system is collapsing from inside and outside of itself and is, in the words of Bergson (1935), "suffer[ing] half crushed under the weight of the progress it has made." Weighting these various arguments, I believe that prudence demands a re-organisation of vital institutions to ensure they can function and prosper without constantly rising levels of output.

The division of growth into three sets of limits is more expositional than theoretical and suffers from several logical inconsistencies and other shortcomings. First, some of the costs of growth (Chapter 3) that make it uneconomic are of a biophysical nature (Chapter 2). Second, the energy prices discussion of Chapter 3 overlaps with the source limit of Chapter 2. Third, a healthy environment is fundamental for well-being, it is ultimately paid labour that cause environmental pressures, and access to environmental amenities is also a distribution issue – all points which were ignored in Chapter 4. Finally, the framework could have been completed with a number of additional sub-limits such as e.g. political limits (link between growth and democracy) or cultural limits (link between growth and traditions).

It should also be added that these different perspectives do not all coexist peacefully. Even though I made them complement each other, there might be causal hierarchies and contradictions. For instance, although not all institutional economists think alike, some of them would probably prioritise social limits over biophysical ones by arguing that "resources are not, they become" (Zimmermann, 1951: 15) and, because they are social constructions, they are neither fixed nor finite (De Gregori, 1987). Radical environmentalists would retort that because society is embedded in nature, biophysical limits have precedence over social ones. Certain activists would probably criticise the apocalypticism of biophysical economists, arguing that a rhetoric of urgency runs against the ideal of a participative democracy. Secular stagnationist may attack eco-feminist economists for not knowing what *economic growth* is while the latter would retort it is the former who do not know what the *economy* is.

Rather than trying to integrate all of those elements into one coherent General Theory of Growth, I have merely connected several academic discussions that have been occurring in different places at different times and among different communities of scholars. If anything, this part should serve as a starting point for discussing the different transition pathways that are elaborated in the rest of the thesis.

[1] It was George W. Bush who, in the 2002 conference "Clear Skies and Global Climate Change Initiatives" organised in Silver Spring, said: "My approach recognizes that economic growth is the solution, not the problem."

At the close of our journey into the universe of growthism and the world it shapes, I want to offer several reflections relating to the idea of limits. Whether we speak of endless production, of dwindling natural resources, or of strained social relations, we are fundamentally reflecting on what it means to have – or not have – limits.

First, social limits are fundamentally different from physical and biological limits, because in the realm of the social it is people's *beliefs* about limits that affect what is possible. Social limits are abstract and contextual. The 2% inflation target of the European Central Bank, the 60% debt ratio of the Maastricht Treaty, and even the 1.5°C line of the Paris Agreement, are only lines collectively drawn in the sand. All measures of "more," "less" and "enough" are relative, and in the end, scarcity and abundance reflect values and norms rather than thresholds out there in the real world. In a book on the topic of limits, Kallis (2019: 59-60) makes this point with force: "Gravity is a fact, not a limit. A limit presupposes a goal. Gravity, then, is a limit if you want to jump from the rooftop of a building and arrive on the ground intact. It is not if you want to commit suicide. […] The limit resides in the subject and the intention, not in nature, which is indifferent to our intentions."

Another reflection is that certain limits are predisposed to be crossed. Let us remember Bookchin (1993: 135-37, mt): "Speaking of 'limits to growth' in a capitalist market economy is as meaningless as speaking of limits to war in a war society." A society that heralds economic growth as the ultimate purpose of social organisation already presupposes that there are no limits. The no-limit narrative in the Western, modern idea of progress actually prevents anything from being considered as a limit. Like a logical puzzle, any obstacle to expansion is perceived as a problem-to-be-solved standing in defiance to human intelligence.[1] The limits today are not really limits, an ecomodernist or luxury communist may argue, they are only what is not politically, economically, or technically possible today but what will be tomorrow.[2] The choice of framing the issue as "limits to growth" could be criticised for its emphasis on that thing that cannot continue, and not directly on all the things that economic growth destroys. An alternative framing is the one embraced by the French discourse of "collapsology" (Servigne and Stevens, 2015) where the idea of limits is applied, not to economic growth, but to the environment in which it occurs.

Thirdly, the discourse of limits can exacerbate the economisation that generated unsustainability in the first place. Economists are quick to conclude that whatever is *limited* is *scarce* and so an evocation of limits could reinforce rather than challenge the prevailing economic way of thinking about nature and culture. If the goal is to shrink the primacy of the economic sphere (the economism I have described in Chapter 1), the idea of limits to growth might backfire. A way out of this economistic trap is to recognise that the act of *limiting* (a process) is as important as the *limits* (an outcome), and that both should be seen as a means to ends such as freedom, justice, and sustainability. (This is a complex point that will occupy us for most of Part II.)

[1] This techno-solutionist perspective is perfectly captured by an often-quoted sentence from US President Ronald Reagan's "Remarks at Convocation Ceremonies at University of South Carolina" (20 September 1983): "There are no such things as limits to growth, because there are no limits on the human capacity for intelligence, imagination, and wonder."

[2] Difficult here not to think of philosopher Jacques Ellul's (1912-1993) concept of *technique*: "Technique is in itself a suppression of limits. From the perspective of technique, no operation is fundamentally impossible or forbidden: it is only an accessory or accidental feature of them […] a limit is only what is not yet technically possible" (Ellul, 1977: 160).

Another reflection is that the growth ideology transcends the left-right political divide. The fully automated luxury communism of techno-utopian Marxists is as much a denial of limits as the unlimited green growth of ecomodernists. Growthism taps into an existential denial of limits where individuals and societies are at all times thrust into becoming more that they previously were. I am only part of what I am about to become. Writing these four chapters left me with the feeling that understanding what triggers and sustains this denial of limits should be a priority for critical social theory.

A fifth reflection is that there are two ways to interpret the idea of limits. On the one hand, technical limits can be seen as external, commanded to avoid disaster (those often being given by experts). The logic here is the following: there are limits, therefore we should limit ourselves (I cannot do whatever I want). Like in the case of austerity politics or climate apocalypticism, the limits are already set and must be followed; it is a supply approach because if there were no limits, there would be no need for limitation.

The opposite logic evokes a more political understanding of limits, setting limits for the sake of setting and having limits. People decide to limit themselves because they derive something from the act of limitation itself: we should limit ourselves, therefore there are limits (I cannot want whatever I can do). For Illich (1973: 117) this difference between *natural* and *cultural* limits is one between necessity and freedom. Likewise, Castoriadis (2005: 248) speaks of "self-limitation" as the "true freedom."

It is my opinion that the second type of limits (self-limitation) is more desirable than the first one (limitation coming from outside): "only a society that decides 'it has had enough' and limits itself from pursuing what can be pursued can solve the problem of scarcity, satisfying itself within what is available" (Kallis et al., 2015: 27). In the end, the question is not 'which limits do we *need'* but rather 'which limits do we *want* to *need*' – a cultural revolution with biophysical repercussions but not the opposite.

I now arrive at my final remark: a limit is always a boundary but not necessarily a barrier. Quite to the contrary, a lack of boundary can act as a barrier to creativity (think of writing a sentence out of an *infinite* number of different words), happiness (more choices is not always better), and social organisation (How to know how to behave if everything and anything is permitted?). A positive perception of limits reflects a healthy individual mind in a healthy collective body. At the individual level, the acknowledgment of an "enough" is praised by a multitude of philosophies as being key to happiness, starting with Lao-Tzu's "those who know they have enough are rich." At the collective level, the constantly evolving setting and negotiation of boundaries *is* what we call society. As Kohr's (1957: 167) writes, "[t]o tear them [limits] from human societies would be like tearing away the shell from the body of a tortoise or the shore from the ocean." Turning a problem into an opportunity, the limitedness of the biosphere is good news as it offers us a possibility to learn how to live within limits, a process that is necessary in achieving the good life.

After being yesterday's panacea, growth has become today's pandemic (Daly and Farley, 2004: 264). "Economic growth may be the world's secular religion, but for much of the world, it is a god that is failing – underperforming for most of the world's people, and for those in affluent societies, now creating more problems than it is solving" (Speth, 2012: 182). It is ones of these extraordinary times Tawney (1920: 1-2) wrote about where it is not enough to follow the road and where one needs to question its destination, and should one disagree with

it, take another one.[1] It is not the end of the world but the end of one world. Actually, it is rather the end of *one* world to avoid the end of *the* world.

Whoever still believes in "fairy tales of eternal economic growth" (Thunberg, 2019: 56sec) find themselves caught in a state of cognitive dissonance where cultural norms and social-ecological realities veer off in opposite directions. Our mental conception of economic growth is not adapting to new realities and the disparity between dominant public narratives regarding the macroeconomy (growth is good) and actualised economic conditions (growth is dead) is widening.

Growth is an "addiction" (Ayres, 1999: 101), which is "pleasurable in the beginning – when the benefits outweigh the costs – but becomes impossible to kick off when the side effects increasingly emerge, not least because a world without it has become inconceivable" (Schmelzer, 2015: 270). Worse, GDP growth that once had a clear function (e.g. providing for the war or recovering from the Great Depression) has managed to outstrip its function: "what could have been seen 'at the start' as an ensemble of institutions in the service of society becomes a society in the service of institutions" (Castoriadis, 1987: 110). Future generations may one day wonder how some of their ancestors came to organise their life around a single monetary indicator, the same way we today sneer at the communities who believed sacrifices are linked to the weather.[2]

As I hope to have showed in this first part, growthism has reached its expiry date. This requires a radical departure from the outdated thinking of throughput-reducing, employment-creating, inequality-cutting, welfare-providing economic growth as the only route to prosperity. The objective should be to ideologically divest in the idea that bigger and faster is always better and to challenge the supposed inevitability and desirability of economic growth.

Instead of an inevitable or permanent natural phenomenon, growth is a choice that a society makes. This choice is relatively recent and was made in particular, if not unique, circumstances. "Growth emerged in and is intrinsically shaped by concrete historical situations, was promoted by specific interests, and has continuously been contested" (Schmelzer, 2015: 270). The identities and institutions that sustain the expansion of the economic realm have been constructed and can therefore be deconstructed. The speed of the ascendency of economic growth as the watchword of economic policy, and the fact that the phenomenon of growth and the supremacy of its pursuit are both recent, gives hope as to the possibility of unhooking the economy from its growth fixation. The end of growth is not the end of the world. Actually, it might be one of its beginnings.

Even though history tells us that human civilisation has not always aimed for growth, this seems hard to believe today.[3] It is paradoxical that, on the one hand, growthism is a

[1] "Most generations, it might be said, walk in a past which they neither make, nor discover, but accept; the main thing is that they should march. […] There are times which are not ordinary, and in such times it is not enough to follow the road. It is necessary to know where it leads, and, if it leads nowhere, to follow another" (Tawney, 1920: 1-2).

[2] If only that statement was new. Precisely one century ago, Tawney (1920: 184) was already concluding his remarkable book *The Acquisitive Society* with the following paragraph: "That obsession by economic issues is as local and transitory as it is repulsive and disturbing. To future generations it will appear as pitiable as the obsession of the 17th century by religious quarrels appears to-day."

[3] This point is often forgotten in debates in favour of the too simplistic assumption that life before capitalism and the industrial revolution was, as Hobbes put it in *Leviathan*, "solitary, poor, nasty, brutish, and short." Like psychiatric patients who fabricate imaginary experiences as compensation for loss of memory, the ideology of growth confabulates about how impossible life was before commodities started to pile up. The goal here is not to romanticise pre-modern practices but rather to acknowledge

celebration of innovation under the permanent belief that things can be made better, and that, on the other hand, when it comes to its internal structure, the system is seen as rigid and unchangeable. As both Slavoj Zizek and Fredric Jameson are reported to have said: "it is easier to imagine the end of the world than the end of capitalism." What this part shows is that the crisis of the imaginary is deeper that one may think, or in other words, that it is easier to imagine the end of capitalism than the end of economic growth.[1]

Bottom line: growth is a bankrupted societal project. After having reached peak growth, modern economies have already started to decline in relative terms. But what if, after all, the anomaly was not the crisis but growth itself? The Winter of growth (Elgin, 1981: 166) has come, and whether one likes it or not, many countries are now facing the commencement of a post-growth era. This leaves us with two options. One is to patiently wait for the return of growth, hoping that the right set of policies will bring it back. The other is to adapt our model of provision to a world without a constant expansion of monetary production. It is a choice between "economies that need to grow, whether or not they make us thrive [and] economies that make us thrive, whether or not they grow" (Raworth, 2017: 30).

If the new normal of growth is – or should be – its absence, what would a post-growth economy look like? As I have repeatedly argued throughout this part, growthism is more than just a phenomenon or an idea, and so it would be a mistake to think of getting rid of it as a kind of component replacement task, as if the growth element in this society can be taken out and a non-growth element put in its place (Trainer, 2012: 593). "It is not just the idea, but the regime that is based on the idea, that needs to come to an end" (Philipsen, 2015: 207). The main culprit is not growth itself but growthism, the ideology of growth.

But growthism is powerful. It will not go down easy. And this is why it is not sufficient to call for lesser, slower, greener, sustainable, smart, inclusive, or alternative growth, for this would leave us trapped within the same economic mindset. Rather we need to emancipate from the economic logic and all the practices that come with it; we need to escape from the economy as a system of representation (Fournier, 2008: 529). In the second part of this dissertation, I will present degrowth, an idea attempting to do precisely that.

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that humans have defined – and do keep defining – prosperity in manifold ways and that the maximisation of GDP is only one of them.

[1] In November 2018, *The Guardian* (reference is Partington, 2018) advertised the IPPR prize as such: "Wanted: radical economist to boost UK economy. Cash prize: £150k." Considering myself such a *radical* economist, I indeed kept reading until realising that the competition was about answering the following question: "What would be your radical plan to force a step change in the quality and quantity of the UK's economic growth?" When economic utopias are reduced to dreaming about a radically different "quality and quantity of economic growth," one may be in the presence of something bigger than this seemingly insignificant accounting trick that Simon Kuznets invented in the 1930s.

Part II

Elements of degrowth

Introduction

An oasis in the desert of the imaginary

THIS part is about degrowth,[1] its history, principles and applications, as well as criticisms and praises. Whereas Part I diagnosed economic growth as the cancer of over-developed nations, this part offers a cure. My main claim is that degrowth is a powerful utopia with the capacity to topple the ideology of growth. After showing that (far from being a natural phenomenon) economic growth is a societal choice, the following three chapters explore the implications of making a different choice.

Any social imaginary, ideological or utopian, is a set of answers to socially existential questions. Degrowth was born out of a disappointment with the prevailing answers to a number of these queries. How can humanity thrive on a finite planet? How to reconcile individual liberty and social cohesion? How to eradicate misery and abate inequality? What is the role of the economy in the organisation of human affairs? How should societies relate to their pasts and futures? The challenge for degrowth is to provide more satisfying answers to these questions than its growthist alternative.

Degrowth has been studied in three different ways. First, historically with a focus on the cultural and intellectual context of its commencement and developments. Second, by tracing back its sources, identifying the individual or collective streams of thought that led to the idea of degrowth,[2] for example: culturalism, ecology, bioeconomy, democracy, meaning of life (Flipo, 2007, 2017). Finally, as a kind of theoretical potluck where different elements are collected in broad themes. Some examples of this include: Martinez-Alier et al.'s (2010) "theoretical / activity / political"; Bonaiuti's (2012a) "bioeconomic criticism / social limits"; Kallis et al.'s (2015b) "ecological-economic-cultural critiques of heteronomy and liberal democracy / search for alternatives" used to structure their list of 10 theses[3]; and most notably, D'Alisa et al.'s (2015) "lines of thought / the core / the action / alliances."

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[1] If I call the ideology of growth "growthism," why is the utopia of degrowth not called "degrowthism" or "degrowism"? Degrowth advocates have shied away from –isms as to not be perceived as proposing a rigid dogma. Even though I make no difference in principle between "degrowth" and "degrowthism," I favour the former over the latter for the sake of simplicity.

[2] See Flipo (2007) for the original typology of sources, Demaria et al. (2013) for the addition of justice as a sixth source, and the second edition of Flipo's book (2017) for a more in-depth description of each source.

[3] "(1) Growth is senseless, (2) growth is uneconomic and unjust, (3) growth is ecologically unsustainable, (4) growth is coming to an end, (5) the growth consensus has eroded the political, (6) limits liberate, (7) a transition beyond growth is a transition beyond capitalism, (8) degrowth alternatives already exist, (9) the politics of a degrowth transition are open and plural, and (10) degrowth in the North will let the South live well" (Kallis et al., 2015a).

Each way of conceptualising degrowth has advantages and drawbacks. The historical study finds its strength in a solid temporal red line but suffers from a past-oriented focus which runs the risk of chaining degrowth to ideas that have lost of their relevance today. The sources approach avoids this shortcoming by considering sources as "entry doors" (Bayon et al., 2010: 21, mt[1]) instead of roots, therefore allowing future-oriented reflections.[2] This is also the appeal of the vocabulary approach that provides several lenses to look at the same issues.

While the two latter strategies facilitate inclusion and thence diversity, they do so at the expense of theoretical coherence.[3] Flipo (2017: 19-20, mt) admits that "the different sources can be understood as reinforcing or excluding each other, which explains that the degrowth movement has not formed into a homogenous political thought and is still animated by intense internal debates." Similar remarks for Demaria et al. (2013: 205) who warn that "the classification of sources presented in this article for analytical purposes should not be seen as implying hermetic compartments. Instead, it highlights the different foci of attention embraced by different writers or actors, depending on their social, cultural, or political backgrounds." The editors of *Degrowth: A Vocabulary for a New Era* (2015) write in their introduction: "contributions in this book come from different schools of thought, different disciplines, and different spheres of life […]. Each of our contributors sees degrowth slightly differently. Not all of them necessarily share what is said in other entries. Yet degrowth is what brings them together and connects them" (D'Alisa et al., 2015: xxi).

According to the editors, all the entries of "the core" section[4] of the book are together forming "the theory of degrowth" (ibid. xxi), although no articulation of the different elements is proposed. What is lacking at the moment is not only a coherent degrowth narrative, but also a rigorous analysis of its theoretical underpinnings. Hence the main objective of this second part: to further develop the theoretical foundations of degrowth.

To clarify, I do not argue here that degrowth should be stripped of its essence for the sake of theoretical coherence and join the ranks of other lifeless concepts such as *homo economicus*, trickle-down theory, and the efficient-market hypothesis. One of the constitutive features of degrowth that should not be assumed away is that it is simultaneously a social movement, a political agenda, and a scientific concept. However, to be useful as a scientific concept, degrowth must be clear, precise, comprehensive, and coherent. Today the field of degrowth is like a wild forest where a multitude of animals and plants can be observed but where there has been little zoological work to classify them and barely any ecological work to study their interactions.[5] Worse still, discussions about the forest often rely on hidden assumptions, which is why they frequently end in misunderstanding.

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[1] I indicate what has been personally translated by adding the acronym "mt" ("my translation") to the reference.

[2] In practice, however, the sources approach often turns into a roots approach with each source defined around one or a small group of people (e.g. Georgescu-Roegen for bioeconomy, Latouche and Partant for culturalism, Castoriadis for democracy). This approach is as problematic as the chronological one as it defines the tree of degrowth by its roots and not by its branches.

[3] By theoretical incoherence, I mean that authors of different entries hold diverging assumptions about what degrowth is (e.g. differences between the New Economy of scholars like J. Schor, T. Jackson, and P. Victor, the steady state economics of J. Farley and D. O'Neill, and the Mediterranean degrowth of S. Latouche, M. Bonaiuti, and G. Kallis). Degrowth occupies the difficult position where it has to remains *inclusive* enough to be a good slogan and *exclusive* enough (i.e. being clearly and precisely defined) to be a useful scientific concept.

[4] Here are the 22 entries: autonomy, capitalism, care, commodification, commodity frontiers, commons, conviviality, dematerialisation, dépense, depolitisation, pedagogy of disaster, entropy, emergy, GDP, growth, happiness, decolonization of the imaginary, Jevons' paradox, neo-Malthusians, peak-oil, simplicity, and social limits to growth.

[5] Calling the current state of degrowth knowledge a "conceptual jumble," Lievens (2015: 230, mt) makes another telling analogy: "the territory exists, it is densely populated but without the awareness of forming a community and without specific

I can think of two reasons why a theory of degrowth is needed. First, no scientific inquiry is devoid of a base theory from which the world is observed; making that theory explicit is a requirement for scientific rigour. Under those circumstances, the question is not whether or not we should develop a theory of degrowth, but rather a series of interrelated questions: Which theory of degrowth is used at the moment? Is it sufficient? And if not, which one should be developed? As I will show in Chapter 5, degrowth was not born a scientific concept but only began to be used as such, especially after the Paris conference in 2008. Yet, some scholars, especially from the first generation, defend that degrowth is not a scientific concept and even less a theory (Latouche, 2006: 16; Bruckert, 2007: 74, mt; Schneider et al., 2010: 513; Bayon et al., 2010: 14; Flipo, 2016: 22; Liegey, 2018).[1] But if one defines science as a social practice where people systematically use concepts and theories to answer research questions about the world, then degrowth factually becomes a scientific concept. And because a concept without a definition is as useful as an arm without a bone, degrowth must sharpen its conceptual edges.

Second, and most importantly, it takes a theory to kill a theory. The development of a paradigm that is at least as effective in answering questions as its competitors is needed to dethrone the well-classified, detailed, and neatly articulated imaginary of growthism.

It is often argued that degrowth cannot be defined because there is nothing to be defined, the role of degrowth as an emancipatory frame being precisely to find out what it is. To this vision of degrowth as a *process* or *pathway* (a way to go somewhere), others oppose an interpretation of degrowth as a *destination* (that somewhere where one should go). My own view is that it is both. For example, a perfectly democratic transition (*process* target) that leads to a society in a situation of ecological overshoot (*destination* target) cannot be qualified as degrowth, and vice-versa. Furthermore, the two aspects are not independent: the *means* can prefigure the *ends*, just as much as the *means* can be backcasted from the *ends*.

Until now, however, it seems to me that the process side has been slightly privileged in attention compared to the destination side. As of today, degrowth has not yet been conceptualised as a system in the sense of a coherent, articulated set of institutions and practices, and so runs the risk of being rebuked as a bridge to nowhere.

In the end, there is much to win and little to lose in trying to refine the idea of degrowth, granted that one remains critical towards the outcome of that process. It is one theory and not *the* theory. My ambition in Part II is to capture the conceptual diversity that has agglomerated under the banner of degrowth into a set of interacting elements. If the task of theory-building always requires simplifications, I hope that my effort in making degrowth more precise will stimulate healthy discussions within the degrowth scholarship and beyond.

Before starting, I must clarify two terminological issues. First, the present chapter is populated with a medley of growth words (*pro-growth*, *objection to growth*, *degrowth*,

knowledge about its boundaries. The task at hand is to elaborate a map of this territory, of this village, as to be able to guide future visitors in it without getting lost."

[1] "[Degrowth is] not a concept in the traditional understanding of the term, there is, properly speaking, no 'degrowth theory' in the same way that economists came up with growth theories, and there are no turnkey models. It is not the 'symmetrical opposite' of growth. It's a political slogan with theoretical implications." (Latouche, 2006: 16, mt); "not a concept […] but only a slogan" (Bruckert, 2007: 74, mt); "Degrowth advocates are careful of the dangers of big and abstract ideas and degrowth is not meant to be a complete theory or a new type of 'religion.' Degrowth is a multi-dimensional concept and a diversity of interpretations and proposals for practical implementation open for public debate" (Schneider et al., 2010: 513); "not a savant concept but common language" (Bayon et al., 2010: 14); "degrowth is not a concept […] it is a multidimensional thought" (Liegey, 2018, mt); "degrowth is closer to an exploratory quest than to a finished doctrine set in stone. That is why it is an alive idea. Let us hope that it remains so" (Flipo, 2016: 22, mt).

degrowther, *post-growth*, *slow-growth*, and *a-growth*) and so it might be worth pausing a second to ponder upon their distinctions.

A first divide has to do with sentiments concerning economic growth, either positive or negative. The side thinking positively about it (growth optimism) is labelled as *pro-growth* while the opposite side (growth pessimism) includes all the other terms. On the negative side, I differentiate between two strands of growth criticism, one more superficial than the other.

The most superficial level I call *objection to growth*, referring to authors as *objectors to growth*, *growth sceptics*, *growth critics*, or *antigrowth* scholars. This category includes diverse critiques of economic growth, for example the beyond-GDP critique, the 1970s environmental limits to growth, those arguing that growth fails to create jobs, eradicate poverty, or improve well-being. Part I is a good example of an *objection to growth* (recall I did not use the word "degrowth" in the first four chapters). It also encompasses the growth agnostic approach of Victor (2008, 2018), Jackson (2009, 2017), van den Bergh (2011), Gadrey (2012), Méda (2013), Raworth (2017), together with all of those who criticise the hegemony of growthism without questioning capitalism, development, and economy (H. Daly, J. Schor, J.G. Speth, K. Trebeck, B. Czech, or R. Heinberg, to name just a few).[1]

Degrowth, in its various spellings,[2] stands at the extreme end of the negative spectrum, integrating all previous criticisms but going further. I call its advocates *degrowthers* as a broad appellation for degrowth-minded thinkers and doers.[3] I am aware that, at least in France, they prefer to be called "objectors to growth"[4] and not "degrowthers" (*décroissants*), which has acquired a derogatory connotation in the pen of their detractors.[5] This negative meaning, however, seems less pungent in English and so I decide to still use the term, cleansed of its negative charge. To avoid confusion, I never use "degrowth" or "to degrow" as synonyms for "a decrease" or "to decrease," but only as a proper noun, in the sense of "Degrowth" with a capital "D" (even though I spell it without the capital letter).

[1] Schmid (2019) calls them "moderate degrowth" in contrast to the "radical degrowth" of the French *décroissance*. Montel (2017: 61, mt) consider them the "halo of degrowth" or as a "weak version of degrowth" (in contrast to the "hard core of degrowth"). Abraham (2019) distinguishes between the "degrowth à la française" (the "radical idea of degrowth") and the "Anglo-American liberal-inspired idea of degrowth," giving H. Daly, P. Victor, and T. Jackson as examples of the latter.

[2] Little variations in the use of the term speak volume about the different attitudes that one finds among degrowthers and their detractors. Some prefer to keep their distance, carefully holding "*degrowth*" with a pair of quotation marks and others emphasise its specificity by capitalising it to *Degrowth* (or even to *DeGrowth* for Schor (2010: 232) and *De-Growth* for Flipo and Schneider (2008) in the proceedings of the Paris Conference). Some do not dare step too far away from the what is known or want to emphasise its direct opposition to growth and spell it as *de-growth* (like Latouche's translator), and others like Pesch (2018) keep it French by calling it "decroissance" (without the accent or quotation marks).

[3] Martinez-Alier (2019: xiii) and Rezvani and Zantvoort (2019) use "degrowers," although this is uncommon practice. Certain scholars speak of "degrowthists" (e.g. Strunz and Schindler, 2017; Demailly, 2014; Dittmer, 2013: 7; Mocca, 2019: 9), sometimes in a pejorative manner (e.g. Phillips, 2015).

[4] "members of the degrowth movement or people practicing voluntary simplicity prefer to be called 'objectors to growth' than 'degrowthers' " (Bruckert, 2007: 68, mt); "We will refer to all the partisans of degrowth as *objectors to growth*, the term that they themselves use, rather than *degrowthers*, which is used in a pejorative manner by them as well as by their detractors" (Lavignotte, 2010: 14, mt, italics in original); "Objectors to growth advocate degrowth but do not like to be called degrowthers, which people understand as synonyms for killjoys and grouches" (Ariès, 2009: 159, mt); "the expression 'growth objectors' is revealing: those people refuse the act of growth in the same way conscientious objectors refuse the act of war. […] they make a pledge for non-violence by refusing to partake in the economic war" (Cheynet, 2008: 61, mt); "the term objector to growth is preferred to the term degrowthers in the hope that it will mobilise more people" (Duverger, 2011: 220, mt). It is also with "*objecteur de croissance*" that Latouche keeps signing most of his texts.

[5] "to let oneself be pejoratively called a 'degrowther' is to lose before having even started. […] growth objectors must vigorously oppose this label to not run the risk of discrediting themselves" (Cheynet, 2008: 63, mt).

The ideas branded as *post-growth* are often in line with degrowth and so I understand them as synonyms.[1] In the literature, it is not unusual to see these two terms used as different phases of the same process: *degrowth* from *pro-growth* and toward *post-growth*. Degrowth would then be the crowbar that turns a closed door into an exit (a process of fighting off the addiction of economic growth) while post-growth (in the sense of after- or beyond-growth) would refer to whatever happens after this achieved state of independence. As for *a-growth*, I do not use the term. Although it was initially understood among French scholars as a synonym for degrowth, it has recently evolved into a distinct position (more about this in Chapter 7).

Now for the second terminological issue. Because I interpret degrowth as de-economisation (an escape from the economy and its way of thinking), it is imperative to clearly define what the economy actually is. In Chapter 1, I have made a difference between the *economic* (a specific way of thinking about activities of provision) and the *economy* (a specific way of organising activities of provisions). Recall that in the present dissertation I understand provision to encompass five interdependent stages: *extraction*, *production*, *allocation*, *consumption*, and *excretion*. *Extraction* renders a natural material available for further transformation (e.g. rosewood in the forest becomes timber in a workshop). *Production* modifies this material (input) as to create a product (output) – timber becomes a chair. *Allocation*[2] transfers the ownership of an asset between people either via sharing, reciprocity, redistribution, or exchange – the chair is being given to a friend, lent to a neighbour, attributed to a fellow citizen, or sold on a market. Once a product has been allocated, it can then be used by a final user, a process that is referred as *consumption* (the chair is being sat on). *Excretion* occurs when the product is no longer considered valuable and is thus discarded as waste (worn out chair is thrown away).

The ontological assumption I make is that each of these acts of provision can be discussed at two levels: in the *real* where one can observe the flows of energy, matter, and time; and in the *social imaginary* (*imaginary* for short), which denotes the mental infrastructure and culture associated with each act (e.g. extractivism, productivism, commercialism, consumerism, and excretivism in the growthist system of provision). For example, *production* is the actual happening in reality (I make a chair) while *productivism* is what is collectively thought to be happening (ontological perception, e.g. I am turning value-less resources into a valuable product) as well as sentiments associated with that thought (normative perception, e.g. the more chairs I make the better).

The present investigation of degrowth is divided into three chapters, each studying it from a different perspective. Chapter 5 offers both a history and a definition of the term. The history covers three periods spanning from the concept's inception in the wake of the May 1968 revolt in France to the coining of "*décroissance durable"* (sustainable degrowth) in 2002, and to its entry into the international academic sphere in 2008 with the developments that followed until today. The definition encompasses three dimensions: degrowth-as-decline, degrowth-as-emancipation, and degrowth-as-destination. Chapter 6 details the theoretical foundations of

[1] The subtler differences between *degrowth* and *post-growth* will be discussed in Chapter 7, but I do not, like Akbulut et al. (2019) and Gerber and Raina (2019), define *post-growth* as a broader appellation including all forms of growth critics (e.g. degrowth, a-growth, steady-state, and post-development).

[2] The term "allocation" includes all transfers of material, energy, and money, whether they occur on the market, between the State and its citizens (usually refer to as *distribution*), within a community or a household. So exchange, distribution, reciprocity, and sharing are all different modes of allocation.

degrowth. I do so in sketching a normative theory of degrowth composed of three moral values (autonomy, sufficiency, and care) which I then use to imagine an alternative system of provision to today's economy. Lastly, Chapter 7 explores the controversies surrounding degrowth, from inaccurate misconceptions to valid criticisms.

Chapter 5

Origins and definitions

WHERE does "degrowth" come from? And how is the word used today? Before offering a novel understanding of the term in the next chapter, I must start with the daunting task of telling the story – or rather stories – of how degrowth came to be.[1] The main finding is that the meaning of degrowth has been evolving through the ages. It started as an environmental concern for decreasing resource use, to then become the spearhead of emancipatory movements against development, capitalism, and economic growth, to finally mature as a utopian project of its own. This layered history and multiplicity of denotations explain why the term is used in so many different ways today and why misunderstandings are common.

This chapter is divided into two sections. The first proposes an international history of the term unfolding in four phases – prehistory (1968-2002), birth (2002-2004) and early internationalisation (2004-2008), and rebirth (2008-2018). Building on that history, the second section examines definitions of degrowth and offers a typology to interpret three different uses of the term (degrowth as decline, degrowth as emancipation, degrowth as destination).

A history of degrowth

Degrowth cannot be properly understood outside of its historical context. Although recent, the idea behind the word has a rich history coming back as far as the 1960s. To the best of my knowledge, Duverger (2010, 2011) remains the only serious attempt to sketch a detailed history of the term.[2] In his masters thesis, the author traces back *décroissance* from its inception in the wake of the May 1968 revolt in France and until its internationalisation in 2008 with the organisation of the Paris Conference. While Duverger only looked at the French *décroissance*,

[1] A disclaimer about objectivity. Whereas such story would be worth telling in its own right, my objective is to learn from the concept's history as to be able to better plan for its future. One could say it is thus an affectionate history.

[2] Lievens (2015) should also be acknowledged; his PhD thesis provides one of the most in-depth history of *décroissance* I have read. Tremblay-Racette (2014) also dedicated her master thesis to the topic – "*La décroissance d'hier à aujourd'hui* (Degrowth from yesterday to today, mt), though on a much lower level of sophistication, mostly repeating Duverger (2011) in terms of events. It is also possible to find articles on the topic (Muraca and Schmelzer, 2017, for degrowth in Germany) or historical section in broad presentation of the concept (e.g. Petridis et al., 2015), as well as shorter texts published online (Demaria, 2018; degrowth.info, 2018), even though these are rudimentary.

I intend to capture a more culturally diverse past, including national trajectories in several countries where the idea has spread, and international developments from 2008 until today.

I should be clear that what I wrote is the history of a thought but not a history of thought. My objective is not to elaborate an intellectual archaeology of the ideas surrounding the concept of degrowth, which has been done by others (e.g. Latouche's book series on "the precursors of degrowth"). Instead, I focus on the word itself and pay more attention to what is happening around books than inside of them. Of course, one cannot be done without the other, but the purpose of the chapter is to understand the life story of a word, and through it the one of all the social movements, political parties, and research networks who embraced it.

The history of degrowth unfolds in four phases. During what I refer to as its *prehistory* (1968-2002), a number of isolated francophone intellectuals laid the conceptual foundations for what would later be called degrowth. In 2002-2004, the term as we know it today emerged in France. In a third phase, what had started in France spread to Italy, Spain and Catalonia, Québec, Belgium, Switzerland, and Germany. The last phase begins in 2008 with the concept entering both the English-speaking world and the academic scene with the creation of a biannual cycle of international conferences.

The science of decline: the prehistory of de-growth (1968-2002)

Although this period may seem distant from today, it is important to understand the context of the "precursors" (Latouche, 2016) as their ideas are still abundantly used by the degrowth scholarship today. But this is only a prehistory for that the history of "degrowth" as it is today understood only starts in the early 2000s. Making the same point in his PhD thesis, Lievens (2015) decides to even differentiate between the *décroissance* (degrowth) of the 1970s and the *néodécroissance* (neodegrowth) of the 2000s. While I prefer to avoid a scission of the term,[1] I still distinguish between the pre-2002 understanding of the term (an objection to growth) and the post-2002 degrowth.

It is often reported that the word "*décroissance*" was first used on June 13, 1972 by French intellectual André Gorz (1923-2007). It happened during a public debate between Herbert Marcuse, Sicco Mansholt, and several other participants[2] organised in Paris by the magazine *Le Nouvel Observateur* as a counter-event to a government-led conference on economic growth.[3] Discussing the work of Nicholas Georgescu-Roegen (1971) in relation to the recently published *The Limits to Growth*[4] (1972), Gorz pondered:

[1] I am sympathetic to Lievens' (2015: 160) appeal for conceptual clarity, yet I nevertheless think that "degrowth" is arcane enough as a word to turn it even further into dead jargon, for example as "neodegrowth," "degrowthism," or even further "neodegrowthism."

[2] Edmond Maire (Secretary-General of the French Confederation of Workers), Edgar Morin (philosopher and sociologist), Philippe Saint-Marc (magistrate and environmental author), Edward Goldsmith (British ecologist), and André Gorz (co-founder of the magazine *Le Nouvel Observateur*).

[3] The conference was organised by Finance Minister Valery Giscard D'Estaing and attracted 1,500 people from a dozen countries in the auditorium of the United Nations Educational, Scientific and Cultural Organization. In his opening speech, Giscard D'Estaing framed the issue in a surprisingly radical manner: "To go from a modest rate of growth to a higher one, you must weaken society and intensify its desires and dissatisfactions. A weakened society – is this worth one point more of growth?" (cited in Farnsworth, 1972). (Even though he famously declared later on that he did not want "to become an objector to growth.")

[4] For a detailed study of the context that led to the publication of the report as well as its reception by the academia and broader public see Vieille Blanchard (2011) and Bardi (2011), as well as Meadows and Meadows (2007) for an insider's perspective.

> "Is the earth's balance, for which no-growth [*non-croissance*] – or even degrowth [*décroissance*] – of material production is a necessary condition, compatible with the survival of the capitalist system?" (Gorz, 1972, translated by Sutter, 2017: 31).

As Sutter (2017) has shown in meticulous detail, and as Latouche (2019a: 8) concurs, the term "degrowth" is understood here, not in its contemporary definition, but only as a synonym for "reduction" when talking about material production, so in the sense of "productive shrinking" (Gorz, 1982: 120) and "contraction of economic and market activity" (Gorz, 1983: Ch. IV), which are other phrases Gorz would later use.[1]

So contrary to what is often written in the degrowth literature, it is inaccurate to say that André Gorz coined the term "*décroissance*." But this does not make Gorz's point any less important. And to understand what he means, we must come back to two critiques of economic growth that framed discussions during this period: Georgescu-Roegen's *The Entropy Law and the Economic Process* (1971) and Meadows et al.'s *Limits to Growth* (1972).

Romanian mathematician and economist Nicholas Georgescu-Roegen (1906-1994) is remembered for being one of the first thinker to bring natural sciences into economics. In his main work, *The Entropy Law and the Economic Process* (1971), he laid the theoretical foundations for a "bioeconomics," of what would become ecological economics a few decades later. Building both on evolutionary biology and thermodynamics, he argued that economic production should be considered an extension of biological evolution, and as such, abide to the two laws of thermodynamics. From this perspective, economic growth accelerates entropy, which at some point, acts as a fundamental limit to production. "The economic process is entropic: it neither creates nor consumes matter or energy, but only transforms low into high entropy" (Georgescu-Roegen, 1971: 281). It results that a commitment to constantly increase the size of the economy is unfeasible because it contradicts the laws of nature.

In 1972, Do. Meadows, De. Meadows, J. Randers, and W. Behrens published *The Limits to Growth*, reporting the results of computer-simulated research they had conducted with thirteen other researchers at the Massachusetts Institute of Technology. Applying the modelling techniques of system dynamics developed by Jay Forrester (e.g. 1971),[2] the team ran a series of simulations regarding the long-term sustainability of economic growth at the global level. Their conclusions: economic growth is biophysically limited. "As soon as a society recognizes that it cannot maximize everything for everyone, it must begin to make choices. Should there be more people or wealth, more wilderness or more automobiles, more food for the poor or

[1] "Only a mode of production divested of the drive to accumulate and expand can invest today in order to save tomorrow – that is to say, in order to satisfy every type of need with a *smaller* volume of more *durable* products […] whereas the impossible chimera of perpetual growth is experienced as crisis and falling living standards, shrinking social production will, under 'post-industrial socialism,' result from a conscious decision to do more and live better with less" (Gorz, 1982: 123, italics in original). "Reduction of work time has nothing to do with emancipation if it merely leads to more time being spent on material and non-material consumption. It can be an emancipatory project only if combined with *contraction of economic and market activity* and expansion of activities performed for their own sake – for love, pleasure or satisfaction, following personal passions, preferences and vocations" (Gorz, 1983: Ch. IV, italics added). Gorz is also remembered for having use the term in *Écologie et liberté* (1977), for more see Sutter (2017: 32-40). Even in his latest writing, for example here in 2007, the author understood degrowth as a simple reduction of emissions, even though its feasibility requires more structural changes: "CO_2 emissions should diminish by 85% until that date (2050) to limit global warming to 2°C. […] *La décroissance* is therefore a matter of survival. But it requires another economy, another way of life, another civilisation, and different social relations" (Gorz, 2007: 29, italics added).

[2] Forrester who was already writing in his *World Dynamics* (1971: 5) that "exponential growth cannot continue forever" and that "our greatest immediate challenge is how we guide the transition from growth to equilibrium."

more services for the rich?" (Meadows et al., 1972: 181-82). Instead of constant growth, they appealed to a more desirable state of "global equilibrium" where population and industrial capital would remain stable.

One year after Gorz, the French philosopher André Amar used the term in an article ("Growth and the moral problem," mt) part of a special issue of the journal *La Nef* (n°52) on "objectors to growth: prosperity, yes… but at what price?" (mt) – this is the first use of the term "objector to growth" I could find. In their online re-publication of the article, the Institute of Social and Economic Studies for a Sustainable Degrowth (which is in fact only two people, V. Cheynet and B. Clémentin) considers this text to be the first use of degrowth in the denotation that it has today. On the contrary, Sutter (2017) affirms it is not, and that Amar only re-stated Georgescu-Roegen's understanding of decline. Let us assess who is correct by looking at the only paragraph where Amar uses the word:

> "The present article does not claim to analyze or resolve the problems of 'zero growth.' If degrowth [*décroissance*], at least in certain forms, today appears necessary, one cannot, on the other hand, treat the economic and political problems it raises in a superficial way. Our intention is more specific: to try to demonstrate how and to what extent the phenomenon of growth is rooted in the very spirit of Western civilisation; that it proceeds from an inversion of our moral values; and finally that every form of mastery over growth is predicated on a profound change in our thinking" (Amar, 1973: 133, translated by Sutter, 2017: 27).

Without a doubt, and as documented by Sutter (2017: 27-29), the sentence where the word is used corresponds to the ordinary use of the word "degrowth" in France, namely a synonym with decline.[1] And yet, Amar's article does prefigure another understanding of degrowth, even though it is not directly attached to the word. Indeed, the author defines growth as an all-encompassing ideology[2] being "rooted in the spirit of modern Western civilisation" and then argues in favour of "a profound change in our thinking." This is not far Latouche's "decolonisation of the imaginary of growth" that will mark the birth of *décroissance* in 2002. But in any case, a single article with an ambiguous meaning is far from enough to declare the emergence of a new idea. And even if Amar was indeed ahead of his time, the fact that his article was not cited in the *S!lence* special issue of 2002 shows that it had gone unnoticed.

A third use of the word "*décroissance*" can be traced to a short article in the February 1974 issue of the magazine *Sciences et Avenir* written by journalist and author François de Closets. Titled "Research confront the crisis," the text explores how scientific research should respond to the exhaustion of natural resources:

> "Nothing will be the same as before for laboratories. The need facing developed economies to consume less energy and primary materials has revealed a new priority objective: *la décroissance*. This assumes a new type of production and first of all a new orientation for research" (de Closets, 1974: 179, translated by Sutter, 2017: 39).

[1] To defend his claim, Sutter (2017: 27-29) points to the plural understanding of degrowth ("at least under certain forms"), the use of the words "necessary" and "today," the connection with the first sentence talking about "zero-growth," the fact that degrowth raises "problems," and the use of the phrase "moderating growth" in direct reaction to the Meadows report.
[2] "Being surrounded by growth means that we live in it and with it as if it were our ecological environment" (Amar, ibid., mt).

Again, Sutter (2017: 39) suggests that the term is used to mean something more like a reduction of material production. And yet, he notes that *décroissance* is posited as a political objective, and not only as an external event and its consequences (e.g. a recession or the oil crisis). If that is so, it would mean that de Closets was closer to the contemporary understanding of degrowth that one would think at first sight.

A fourth use of the term, concerning which I have not encountered any analysis so far, is French thinker Bernard Charbonneau's 1974 article in the March issue of the protestant magazine *Foi & Vie*. In his regular column "*Chronique de l'an deux mil*" (Chronicle of the year two thousand, mt), Charbonneau titled a three-page section "*coûts de la croissance et gains de la décroissance*" (costs of growth and benefits of degrowth, mt). Of all the four evocation of *décroissance*, this is, in my opinion, the one closest to the contemporary understanding of the term, even if Charbonneau did not clearly distinguish whether the term meant a set of policies or simply the circumstance (reduced or negative economic growth) that opened the door to considering them.

What he argues is that economic growth brings not only benefits but also costs, and that, in regards of these costs, it might not be worth expanding production. "[J]ust as it solves some problems, exponential growth creates others, which involve costs of all kinds: economic, ecological, social. […] production is also destruction of natural resources: who produces wood clears a forest" (Charbonneau, 1974: 66-67, mt). But compared to the classic 1970s objection to growth that focuses on costs, the author spends considerable time describing benefits:

> "Inevitably, the curve [of exponential economic growth] will come down, this is now commonly accepted; […] If we must slow it down, better do it without a catastrophe: a limited crisis like the one with oil can be a useful warning. Of course, in a system relying on the infinite expansion of production, any drop in growth rates will be costly: in living standards and employment, and crises of all kinds until the system adapts. But if growth is an ambiguous phenomenon, so is degrowth [*la décroissance*], and its costs include benefits. In producing less oil, the Arab States spare their reserves and extend the time for transition in preparation for the day when they will be exhausted. And if we must give up the Concorde [supersonic plane], the production of clean air and silence, whose cubic metre price is expensive, will increase. […][1] If growth enables social mobility, degrowth enables stability, and thus social harmony, which can also be a source of happiness. […] the surest benefit of the oil crisis is that it will force us to reflect and rethink our actions instead of constantly going faster in the same direction just as to avoid falling down. It will force us to be imaginative: to carefully exploit the resources we have like coal and to find new sources of energy. One will need to reduce waste, and therefore pollution; to build more durable products and invest in new recycling processes for plastics. We will need to imagine new forms of leisure: instead of spending eight days in the Indies, we would bike on the calm roads of Berry [French province] where we would be able to fish for trout again" (Charbonneau, 1974: 67-68, mt).

[1] This is the part of the text I have shortened: "Instead of a 40-page journal, we will have a cleaner river; and the environment will be better preserved by a decrease of bank loans than it would be by the action of the environment Minister. The crisis of the automobile industry will have dramatic effects, paralysing all kinds of activities that depend on it, particularly tourism. But the enormous costs generated by the multiplication of accidents and the frantic building of roads will decrease; governments will be forced to improve public transports, and Paris will be saved. If the oil crisis will pose problems for the production of pesticides and fertilisers, maybe it will stimulate an '*Hauswirtschaft*' [self-production at home] that provides rural foods, landscapes, and cultures. As for the people of the Third World, they already realise the wealths of 'under-development' that enabled them to spare natural resources, which would have been otherwise exhausted" (Charbonneau, 1974: 68, mt).

The true novelty in this text, and it is on that point that it prefigures today's degrowth, is that *décroissance* is depicted as a voluntary procedure. As I read it, this is hinted in the small sentence "if we must slow it down, better do it without a catastrophe,"[1] where *décroissance* is interpreted not only as an externally imposed event (like the oil crisis) but as a conscious political decision.

These isolated events are representative of a broader intellectual and cultural atmosphere set by the revolts of May and June 1968.[2] The end of the 1960s experienced the winding down of the era of high growth rates and low unemployment referred to as *les Trente Glorieuses* (the Glorious Thirty). It was a time of fast pace cultural change amid a rigid political regime, with a rise in power of a French Youth increasingly dissatisfied with certain cultural traditions and with authority in general. On May 2, 1968, an anti-imperialist event organised at the University of Nanterre near Paris turned into a protest and forced its dean to close down the university the following day. The movement spread throughout Parisian student networks to reach equally dissatisfied workers who joined in the contestation in a several-weeks-long general strike whose scale has remained unrivalled ever since.

In line with the hippie counter-culture, May 1968 was a revolution against many of the trends that are now the targets of degrowthers (imperialism, patriarchy, consumerism, and capitalism) and fuelled by texts that one still finds in the degrowth literature (e.g. Lefebvre, 1947; Marcuse, 1964; Vaneigem, 1967; Debord, 1967). Although not interested in seizing political power, protesters called for the emancipation of women, peace and solidarity, as well environmental awareness. It was also a time of utopian aspirations and is remembered for its provocative slogans: "be realist, demand the impossible," "it is forbidden to forbid," "down with consumer society," or quite fitting to the present thesis, "one does not fall in love with a growth rate" and "the economy is wounded – I hope it dies!" (La Toupie, 2018).

Straight after the events, three intellectuals (Edgar Morin, Claude Lefort, and Cornelius Castoriadis) published *La Brèche* (The Breach, mt), a text arguing that the May 68 movement cracked open society creating an opportunity for radical change. Though there may be fierce debates on the details, it is clear that part of the idea of degrowth was planted in the cracks of May 68.

The early 1970s saw the birth of an organised environmental movement, which joined in the critical bandwagon in adding ecological injury to social insult. While the movement of May 68 was a utopian critique of the prevailing political-economic regime (shout: another world is possible), the two oil crises of 1973 and 1979 attracted criticisms from a dystopian perspective (shout: this world is impossible). In the eyes of its detractors, the Fordist system that enabled the Glorious Thirty was reaching both social and environmental limits. It is in this context of uncertainty regarding a system that either *could not* or *should not* persist that economic growth became a source of discontent.

[1] In the original French: "Il faudra bien la freiner [the exponential growth curve], autant que ce ne soit pas en catastrophe."
[2] Several other historical events could be chosen as a symbolic start of the objection to growth. A number of works published prior to this date provide an evidence that this idea was already in the making – e.g. Rachel Carson's *Silent Spring* (1962), Herbet Marcuse's *One-dimensional man* (1964), Kenneth Boulding's *The economics of spaceship Earth* (1966), Guy Debord's *La société du spectacle* (1967), Raoul Vaneigem's *Traité de savoir-vivre à l'usage des jeunes générations* (1967), or Ezra Mishan's *The Costs of Economic Growth* (1967).

At the time, criticisms of economic growth did not arouse much interest from politicians, with two notable exceptions. A first event worth recalling is the 1972 letter that Sicco Mansholt, then Vice-President of the European Commission, wrote to its President Franco-Maria Malfatti to urge him to consider substituting the pursuit of "gross national benefit" to the one of economic growth. In this six-page text, he writes that "it would be desirable to consider how we could contribute to an economy no longer based on maximum growth per capita," and that European policy should be based on a "precisely planned economy" that "secures the material needs that are strictly necessary for every individual" with "a production system without pollution and the development of a circular process" (Het Nieuwe Instituut, 2014).

What makes the story of this letter worth telling is that only one month after sending it, Mansholt was appointed president of the Commission after F.M. Malfatti resigned from his post. In an interview to *Le Nouvel Observateur*, Mansholt (1972, mt), now in a position of power (albeit short lived, Mansholt's presidency would only last six months), repeated his plea: "is it possible to maintain our growth rates without profoundly affecting our society? Lucidly, the answer is no. So one should not only aim for zero growth but even for negative growth. Let us be frank: we must reduce economic growth, which is material growth, and replace it with another growth – the one of culture, of happiness, and of well-being."

The second exception is The Cocoyoc Declaration (1975) resulting from the UNEP/UNCTAD *Symposium on Patterns of Resource Use, Environment and Development Strategies* that took place a year earlier in Cocoyoc, Mexico. The Cocoyoc declaration is often linked to the concept of "eco-development," a term suggested by Ignacy Sachs (1979, 1980, 1992) that is at midpoint between sustainable development and sustainable degrowth.

Although the declaration does not use the word "degrowth," most of its statements and the "new economic order" they describe would be gladly endorsed by contemporary degrowthers. Not only a critique of development and economic growth, but also a scepticism towards market solution and population blaming, a defence of plural visions of prosperity and "national self-reliance," an awareness about patterns of unequal exchange, "autonomous goal-setting and decision-making," and "local technology," as well as, what is even more radical for the time, an appeal to constraints on consumption.[1] By pointing at "overconsumptive types of development that violate the inner limits of man [sic] and the outer limits of nature" (ibid. 9), The Cocoyoc Declaration became an emblem of the postdevelopment discourse, which would later give birth to degrowth.

[1] "Human beings have basic needs […]. Any process of growth that does not lead to their fulfilment – or, even worse, disrupts them – is a travesty of the idea of development. […] A growth process that benefits only the wealthiest minority and maintains or even increases the disparities between and within countries is not development. It is exploitation" (The Cocoyoc Declaration, 1975: 8-9); "The experience of the last 30 years is that the exclusive pursuit of economic growth, guided by the market and undertaken by and for the powerful elites, has the same destructive effects inside developing countries" (ibid. 7); "The solution of these problems cannot be left to the automatic operation of market mechanisms" (ibid.); "A North American or a European child, on average, consumes outrageously more than his Indian or African counterpart – a fact which makes it specious to attribute pressure on world resources entirely to the growth of Third World population" (ibid.); "we emphasize the need for pursuing many different roads of development. We reject the unilinear view which sees development essentially and inevitably as the effort to initiate the historical model of the countries that for various reasons happen to be rich today" (ibid. 8); "Large parts of the world of today consist of a center exploiting a vast periphery" (ibid. 9); "We have spoken of the minimum satisfaction of basic needs. But there is also a maximum level, there are ceilings as well as floors. Man [sic] must eat to live. Be he can also over-eat. " (ibid. 8) and "Resource-absorbing and waste creating over-consumption should be restrained while production of essential for the poorest sections of the population is stepped up" (ibid. 10).

After the work of Meadows and colleagues, growth was in the spotlight: E.F. Schumacher's *Small is beautiful* (1973), R. Easterlin's *Does Economic Growth Improve the Human Lot?* (1974), P. and A. Ehrlich's *The End of Affluence* (1974), R. Hueting's *New Scarcity and economic growth* (1974), F. Hirsch's *Social Limits to Growth* (1976), T. Scitovsky's *The Joyless Economy* (1976), W. Johnson's *Muddling towards Frugality* (1978), F. D'Eaubonne's *Écologie et féminisme* (1978), or J. Drewnowski's *The Affluence Line* (1978), to name just a few.[1] It is in this context that Herman Daly, student and protégé of Nicholas Georgescu-Roegen, developed his steady state economics, one of the most well-known critique of economic growth.

Born in 1938 in the United States, Herman Daly is considered one of the founder of the heterodox school of ecological economics. In 1973, he edited an anthology of texts first published as *Toward a Steady-State Economy*, including a number of early critics of economic growth such as N. Georgescu-Roegen, K. Boulding, E.F. Schumacher, J.B. Cobb, and part of the Meadows team. A few years later, he published *Steady-state economics* (1977), a book of his own that would come to define an approach that is still used and referred today as steady-state economy. A steady-state economy is "an economy with constant stocks of people and artefacts, maintained at some desired, sufficient levels by low rates of maintenance 'throughput' " (Daly, 1977: 17). Following John Stuart Mill's optimist insight about the stationary state, Daly argued that growth should be considered a temporary stage towards maturity and sufficiency. Past a certain threshold, further economic growth can be undesirable – what Daly (1996) would latter call "uneconomic growth."

It was this interest of the public in growth that led to what Duverger (2011: 45) describes as the real birth of the word "décroissance": the 1979 publication in French of a collection of four essays from Nicholas Georgescu-Roegen as *Demain la décroissance* (Tomorrow, degrowth, mt) by Swiss philosopher Jacques Grinevald and Belgium-Swiss jurist and historian Ivo Rens. Without prior knowledge of Gorz using the term before, the word "*décroissance*" was selected in agreement between Georgescu-Roegen (who was fluent in French) and the two editors to translate "decline" and "declining state" (Bayon et al., 2010: 8).

Carefully analysing the translated text and its justification by Grinevald (2006a, 2006b, 2008, 2011), Sutter (2017: 25-26) observes that three out of four appearances of "*décroissance*" in Georgescu-Roegen's text refer directly to Adam Smith's phrase "declining state," and that the adjective "*décroissants*" was already used in this precise context in Germain Garnier's early 19th Century translation of Smith's 1776 *The Wealth of Nations*, which has remained the standard French version of the text to this day. He concludes that "although the word '*décroissance*' was used […] in contexts very pertinent to the preoccupations of the degrowth movement today […] all uses of the word in that volume carried the same semantic content as the word had been carrying for roughly two centuries."

[1] *Limits to Growth* (1972) made popular an idea that was already there. It suffices to read Mishan's *The Costs of Economic Growth* (1967) or, in France, Kende's *L'abondance est-elle possible* (1971) to realise that everything in *The Limits to Growth* has already been said, even though it had not be shown empirically, and definitely not with the communicative force of the Meadows report. For more about such publications during the 1970s, 1980s, and 1990s, see Odum and Odum (2001: 29-57).

Even if what Georgescu-Roegen meant may have been close to or identical with Adam Smith's "declining state," the choice to use "*décroissance*" in the title of the 1979 book was instrumental in bringing about the contemporary denotation of degrowth.[1]

The sprout that would later become degrowth surfaced in the 1960s and 1970s. The confluence of the revolts of May 68 and the emergence of the environmental movement merged criticisms of capitalism and imperialism with ones of productivism and extractivism, providing a fertile ground for a radical questioning of the purpose and consequences of economic growth. At the time, the concept is at an embryonic stage, namely only understood as the symmetrical inverse of economic growth or a synonym with decline. With hindsight, one would say it was not degrowth but only an objection to growth. This first phase is short-lived, only lasting throughout the 1970s, but influential enough to plant the seeds of its later development in the minds of what would become the first generation of degrowthers.

I unbelieve therefore I am: the birth of décroissance soutenable (2002-2004)

After two decades of hibernation, it was three parallel events in the end of 2001 and beginning of 2002 that marked the birth of degrowth as it is known today. In the Winter of 2001, the periodical *L'écologiste* published a special issue titled "*Défaire le développement, refaire le monde* !" (Unmake development, remake the world) with the participation of several authors who would later be considered degrowth pioneers, for example Serge Latouche, Marie-Dominique Perrot, Jacques Grinevald, Ivan Illich, Pierre Rabhi, François de Ravignan, and Alain Gras.

In February 2002, the environmental activist magazine *S!lence* released a special issue titled "*Décroissance soutenable et conviviale*" (n°280).[2] It is in the opening article that Bruno Clémentin and Vincent Cheynet (the directors of the French version of Adbusters – *Casseurs de pub*, which they created in 1999) officially coined the term "*décroissance soutenable*" (sustainable degrowth) as an alternative to "*développement durable*"[3] (sustainable development).[4] What is striking about this publication, and especially Serge Latouche's text, is that it brings together the old 1970s dimension of degrowth as decline with a completely novel one: degrowth as decolonisation of the imaginary of growth. The division between the old denotation (the decrease) and the new one is still blurry, but in my judgment, this special edition represents a turning point in the history of degrowth.

Clémentin and Cheynet (2002a: 6, italics in original, mt) still embrace the 1970s denotation: "To transition from our civilisation to a *sane economy*, rich countries should drastically reduce their production and consumption. In economic terms, this means

[1] To avoid misunderstanding: by instrumental, I mean that the social movement and its scholars collectively chose Georgescu-Roegen and Gorz (Amar, de Closets, and Charbonneau were – and still are – ignored) as their precursors, making their work – and use of the term – significant in the history of degrowth.
[2] As Latouche (2014b: 132) recalls, the original title of the special issue was actually "It is perhaps time to bring back the word '*décroissance*' " (mt).
[3] The translation of "sustainable development" in French as "*développement durable*" (lasting development) and not "*développement soutenable*" (supportable or tenable development) makes it particularly problematic for critics of development.
[4] An almost identical text was published by the same authors as "*La décroissance soutenable*" in the 2002 special edition of *Casseurs de pub*. The history section of the IEESDS website affirms that the two authors came up with the concept in July 2001 after reading Georgescu-Roegen's book, and that it is this concept that inspired Vincent Cheynet to organise the n°280 special issue of *S!lence* of February 2002.

décroissance."[1] Just like for Georgescu-Roegen, the finitude of the environment imposes a physical degrowth; a societal "diet" that requires the "rich" to consume less. The novelty here is the fact that this reduction should be "sustainable," which means without generating "a social crisis that would jeopardise democracy and humanism" (ibid. 6, mt). The use of the old denotation becomes even clearer when they give the fall of the Soviet Union and the associated reduction of its greenhouse gases emissions as "an example of chaotic *décroissance*." Clémentin and Cheynet (2002a) see *décroissance* only as a shrinking. Their reason for substituting "sustainable degrowth" to "sustainable development" is simply that they consider degrowth more akin to achieve the Brundtland definition, namely to "meet the needs of the present without compromising the ability of future generations to meet their own needs."

Authored by Serge Latouche, the second article of the special issue – "*A bas le développement durable ! Vive la décroissance conviviale !*" (Down with sustainable development! Long live convivial degrowth!) – introduces a new dimension of *décroissance*. The objective here is not merely to shrink certain things but also, and most importantly, to emancipate from an ideology:

> "To survive or last, it is urgent to organise *décroissance*. When you are in Rome and you want to go to Turin, and if you are, by mistake, on the train to Naples, it is not enough to slow down the train, to break, or even to stop, you must go down and take another train in the opposite direction. To save the planet and guarantee an acceptable future to our children, it is not enough to moderate current trends, we must squarely escape development and economicism. […] Enacting *décroissance* means, in other words, abandon the economic imaginary, that is the belief that more equals better" (Latouche, 2002: 10, mt).

Here, degrowth is not quite yet depicted as a goal (the degrowth society as a destination), as it would be later in Latouche's writings. It is still a strategy, but of a different kind that the one advocated by Clémentin and Cheynet (2002a); not only a real decrease of production and consumption, but an imaginary shift in the imaginary representations associated with production and consumption.

In the following article, Bonaiuti (2002: 11, mt) also alludes to the imaginary aspect, talking about "a profound transformation of the economic and productive imaginary," where "material degrowth" could turn into a "relational and spiritual growth" (here anticipating what would later become one[2] of the slogan of degrowth: *Moins de biens, plus de liens* – literally "less goods, more relationships," but perhaps "less commodities, more communities" or "less market transactions, more human relations" would be catchier translations). This is also the case for Depuydt (2002), the author of the fifth and sixth articles when he argues that one cannot criticise economic growth without criticising the market economy, then going in the direction of the broader, system-wide transformation that degrowth would later embrace.

In a history of degrowth, Serge Latouche, "the pope of degrowth" (Boucaud-Victoire, 2019, mt) or "the most public sage of décroissance" (Sutter, 2016), surely deserves his own

[1] In the fourth article of the special issue, Schneider (2002: 15, mt) speaks of *décroissance* in the 1970s meaning: "Let us consider two scenarios: the scenario 'growth' with a relatively small material growth of 2% for the coming 48 years, and the scenario 'degrowth' with a 5% reduction during the same period."

[2] Other slogans are: "*moins mais mieux*" (less but better, mt); "*la première décroissance est la décroissance des inégalités*" (the first degrowth is the degrowth of inequality, mt), and, later in the international movement, "the only sustainable growth is degrowth."

paragraph. Latouche is emeritus professor at the Université Paris Sud. Trained in law, political science, and economics, his early work focused on epistemology applied to the field of economics (he wrote a PhD thesis in philosophy titled *Essai sur l'épistémologie de l'économie politique*, 1974), hence the importance he would later give to the "decolonisation of the imaginary." He wrote a thesis (*La Paupérisation à l'échelle mondiale*, 1966) in Congo before spending time in Laos on an economic cooperation mission, two experiences that he says made him "lose his faith as an economist" and brought him closer to post-development theories (Latouche, 2014b: 102-03, mt). It is important to note here, anticipating discussions in the next two coming chapters, that it is only with *La planète des naufragés* (1991) that Latouche started to include environmental concerns to his work (Schepper-Valiquette, 2014: 36).

Later in the month (February 28 – March 3), a conference titled "Unmake development, remake the world" was organised in Paris at the Palais de l'UNESCO with 80 speakers and an audience of 800.[1] It is this event that Duverger (2011: 91) – with the confirmation of Latouche (2011a: 7, 2018: 278, 2019: 6) – holds as the founding event of the degrowth movement.[2] One could say that it is during this meeting that the postdevelopment movement and the newly rediscovered term "*décroissance*" found each other.[3] In his welcoming speech, Ali Kazancigil, the executive secretary of the Management of Social Transformations (MOST) project clearly puts *décroissance* on the agenda:

> "In these times of timid thinking, all the interest of this Colloquium lies in the radicality of the alternative policies that you will discuss. To take an example, I'll mention the notion of '*décroissance soutenable*,' based on the idea of producing less while polluting less, of reducing consumption in rich societies, of truly sharing wealth with those having fewer advantages and resources, with the goal that everyone lives better, [and] which you oppose to the idea of 'sustainable development' […]" (Kazancigil, 2002: 403 translated by Sutter, 2017: 41).

This event led to the formation of the *Réseau des Objecteurs de Croissance pour l'Après-Développement* ou ROCADE (Network of Growth Objectors for Post-Development), which published a manifesto in March 2003 written by Serge Latouche. Criticising development in all its form, the text makes a plea for "a society in which economic values would have lost their centrality […] a decolonisation of our imaginary and a deseconomisation of minds" (ROCADE, 2003: 3, mt). It sets "resistance and dissidence" as the motto of the network.

One section titled "To degrow and embellish" (ibid. 7, mt) is visionary for the time: "Embracing degrowth means to renounce to the economic imaginary, that is the belief that more is better" (ibid. 8, mt); "the watchword of degrowth is to abandon the nonsensical objective of growth for growth's sake" (ibid., mt); "Degrowth is only possible at the condition of leaving the growth economy to enter a 'degrowth society' " (ibid., mt).

[1] The event was organised by the Association *La Ligne de l'horizon – Les Amis de François Partant*, the newspaper *Le Monde Diplomatique*, and UNESCO's Management of Social Transformations (MOST) programme. The conference was preceded by the publication of a special edition of the magazine *L'Écologiste* (coordinated by Serge Latouche) that was divided into three themes: "the mirages and ruins of development," "alternatives to development," and the texts of the "pioneers."

[2] The importance of the anti-development stream in the formation of the concept upholds the assumption that dominant idea must sometime be destroyed to create the space for new ones to emerge.

[3] For more about the content of the conference, see the collection of contributions in Apffel-Marglin et al. (2003).

The manifesto ends by announcing the four objectives of ROCADE: "conceive and promote resistance and dissidence against the growth society and economic development, reinforce the theoretical coherence and the practice of alternative initiatives, implement genuine autonomous and convivial societies, and fight for the decolonisation of the dominant economic imaginary" (ibid. 12, mt).

Paris, however, just happened to be a coincidental location, as the real homebirth of *décroissance* is rather the city of Lyon, located in the South East of France. It is there in "the capital of degrowth" (Duverger, 2011: 212, mt) that in 2002 was created the IEESDS for *Institut d'études économiques et sociales pour la décroissance soutenable* (Institute of Social and Economic Studies for a Sustainable Degrowth).[1] Taking a Moai (one of these monolithic human figures carved by the people of Easter Island) as its logo, the institute describes its activity as such:

> "creating a studying centre, collecting data and information, and publish about economic decrease, theoretical and applied, promoting sustainable public policies in countries overtaking their ecological levy, taking into account the limitedness of our planet, reintroducing the ecological parameter into economics – bioeconomy – and stating as our foremost moral concern: give every human being today the necessary share of the available resources in order to attain a full human awareness without destructing other living systems and without taking off more of what is renewable for each generation" (IEESDS, 2019).

Whereas these three first events (the two publications and the conference) did not gain much public attention, the campaign of Pierre Rabhi in the 2002 presidential election did. Pierre Rabhi describes himself as a "farmer-writer from the Sahara living in the Cévennes [French region]." In the lead-up to the elections, he published the *Appel pour une insurrection des consciences* (Call for the insurrection of minds, mt) as a political programme. Opening with "growth is not the solution: it is the problem," Rabhi (2002, mt) announced that "the time for sustainable degrowth has come." (His campaign was headed by Jean-Claude Besson-Girard, an influential name in the French degrowth landscape).

His ideas resembled the North American voluntary simplicity with a strong focus on spirituality ("respect life in all its forms"), but he also called for social and political change in the forms of an escape from a "society of overconsumption," in favour of local production and consumption (with a strong focus on agroecology), a more participative democracy, and a cultural revolution that would "put femininity at the heart of change." Rabhi kept using the word "degrowth" until 2005 before abandoning it hoping to find "another name that would be less scary for people but still be provocative enough as to not become banal" (Rabhi, 2005: 181, mt) – he would later adopt "happy sobriety" (Rabhi, 2010, mt).[2] Even though Rabhi did not

[1] Its charter states that its "vocation is to create a study centre gathering resources and disseminating information and publications on the topic of economic, theoretical, and applied degrowth with the objective of promoting sustainable public policies in countries in a situation of ecological overshoot, taking into account the finitude of our planet and reintegrating the ecological aspect within economics – bioeconomics –, as well as affirming our first moral imperative: to provide every present and future human being with the means necessary to express their full humanity without destroying other living systems and without extracting more resources than available for each generation" (IEESDS, 2018a, mt).

[2] Rabhi (2010: 97, mt) justifies this choice: "I had embraced the term 'sustainable degrowth,' proposed by the Romanian economist Nicholas Georgescu-Roegen [sic]; I made it the central argument of my presidential campaign in 2002; I had to abandon the term because it created many misunderstandings, but I did not abandon the analysis and economic postulates that Roegen offered, and which I still find extremely relevant." Not unrelated to Rabhi's decision was a personal conflict with

collect enough signatures to become candidate for the election, he managed to popularise the discussions that are now at the heart of degrowth.

2002 is also the year when degrowth was first touted in local politics, even if only on a limited scale. Vincent Cheynet and Françoise Carcel presented themselves as candidates for the legislative elections in the second constituency of the Rhône region promoting a degrowth programme. Their call: to "reduce our consumption and production to share the renewable resources of the Earth with all its inhabitants" (Cheynet and Carcel, 2002, mt) – Cheynet had already being campaigning in 1997 and would do it again in 2007.

The first book on décroissance was published in 2003 (*Objectif décroissance: Vers une société harmonieuse*; The degrowth objective: Towards a harmonious society, mt).[1] Coordinated by Michel Bernard, Vincent Cheynet, and Bruno Clémentin, the book was a success: 8,000 copies, re-printed three times, and later translated into Italian, Spanish, and Catalan. It also led to a 350-people symposium on "*La décroissance soutenable*" (sustainable degrowth) organised in Lyon later in the year with speakers such as Serge Latouche, Mauro Bonaiuti, Paul Ariès, Jacques Grinevald, François Schneider, Pierre Rabhi, and participants from France, Switzerland, and Italy.

In November, Serge Latouche published his first degrowth-related article in the newspaper *Le Monde Diplomatique* under the title "*Pour une société de décroissance*" (For a degrowth society, mt).[2] If economic growth is neither sustainable nor desirable, then "one should side for degrowth: for a society based on quality instead of quantity, on cooperation instead of competition, for liberating humanity from economism and setting social justice as an objective (Latouche, 2003c, mt). Reflecting over the history of the term in his latest book, Latouche (2019a: 109) argues that the heat wave of the Summer of 2003, which killed around 70,000 people all over Europe, including 20,000 in France (WHO, 2007), played a big role in triggering interest in ecology and degrowth.

The newspaper *La Décroissance, le journal de la joie de vivre*[3] was created in March 2004 under the supervision of Vincent Cheynet and Bruno Clémentin. After 161 issues, it is still running today, being printed every month. The editorial line of the journal has been source

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Cheynet who accused him personally of having received money from the supermarket chain Carrefour to finance his association *Terre et Humanisme* (see "Où va Pierre Rabhi?" in *La Décroissance*, n°29, December 2005).

[1] Part of the collection *L'après développement* (After development, mt) directed by Serge Latouche, the book was structured in three parts (degrowth and conviviality, degrowth and change of mind-sets, and the work in progress of degrowth). The authors who contributed were, in alphabetical order, Paul Ariès, Michel Bernard, Mauro Bonaïuti, Marie-Andrée Brémond, Denis Cheynet, Vincent Cheynet, Bruno Clémentin, Georges Didier, Fabrice Flipo, Bernard Ginistry, Jacques Grinevald, Willem Hoogendijk, Serge Latouche, Philippe Lempp, Michel Lulek, Serge Mongeau, Helena Norberg-Hodge, Madeleine Nutchey, Michel Ots, Sylviane Poulenard, Pierre Rabhi, Sabine Rabourdin, François de Ravignan, François Schneider, and François Terris.

[2] One can point to several articles on degrowth in the media during the same year: Another special issue of *S!lence* (n°297 "Les chantiers de la décroissance" [The works in progress of degrowth, mt] and n°302 "La peur de la décroissance" [The fear of degrowth, mt], and n°350 "Décroissance côté femmes" [Degrowth for women, mt] later in 2007), "*La décroissance soutenable*" in *Réel* (March 2003), "*Ils sont fous ces décroissants !*" in *Le Canard enchaîné* (September 2003), "*La croissance, à quoi bon ?*" in *Libération* (25 September 2003), "*Moins c'est mieux !*" in *Télérama* (October 2003), "*Ces hommes qui rêvent de décroissance*" in *Lyon Capital* (October 2003),"*Mon theme préféré au FSE, la décroissance*" in *Charlie Hebdo* (November 2003), "*Ces décroissants qui prônent la frugalité*" in *le Courrier* (29 November 2003), "*La décroissance soutenable : décroître ou mourir?*" in *Imagine 42* (December 2003). The n°32 (March-April) of the journal *Mouvements* presented one of the first controversial debate on the topic ("Growth and degrowth in debate") with two critical articles by J.M. Harribey (2004) and G. Azam (2004).

[3] Along with this journal, degrowth ideas have been present mostly in *Silence* (1982-now), *EcoRev'* (1999-now), *L'Écologiste* (2000-now), *Casseurs de pub* (2005-now), *l'Âge de faire* (2005-now), *Entropia* (2006-2014), and *Sarkophage* who in 2013 merged with *les Zindigné(e)s* (2007-now).

of tensions among French degrowthers, especially because of its acerbic tone and the repeated shaming of famous environmentalists (Pierre Rabhi, Nicolas Hulot, Hervé Kempf, Yves Cochet, alongside a host of others).

A book, a journal, and also a Wikipedia page. In February 2004, an anonymous contributor under the pseudonym of "Niarlotep" created the Wikipedia page for *Décroissance*, defining the term minimally as "a concept used and defended by certain economists and ecologists" (Wiki décroissance, 2004).

In 2004, Latouche wrote *Survivre au développement* (Surviving development, mt), which he later described as "the first systematic manifesto of the 'objectors to growth' movement" (Latouche, 2016c: 7, mt).[1] Its originality was the use of the term "*décroissance conviviale*" (convivial degrowth), although, at this point, it was not yet clear what it meant and how it differed from the old 1970s degrowth-as-decline. On the one hand, Latouche understood degrowth as the application of a postdevelopment worldview to the global North. As such, degrowth was about a "genuine decolonisation of our imaginary" (ibid. 115, mt): "to conceive a serene degrowth society and ways to get there, one must literally leave the economy. This means questioning the domination of economy on everything else in both theory and practice, but especially in our minds" (ibid. 96, mt). But on the other hand, he also wrote, commenting on the climate reports of the time, that "degrowth is therefore inevitable" (ibid. 92, mt), here falling back into the 1970s understanding of the term. One would have to wait another of his book, *Le pari de la décroissance* in 2006, to have a clear articulation of these two forms of degrowth.

When editors of the journal *S!lence* contacted Serge Latouche and others to ask them to write something about Georgescu-Roegen's work, no one could have predicted that this would lead to the birth of the degrowth movement. After only two publications and one conference, the word "décroissance" was back, and this time for good. The decline of the 1970s met the postdevelopment discourse and became *décroissance soutenable* (sustainable degrowth): a reduction of throughput together with a decolonisation of the imaginary of progress, development, and growth. And once born, the term would take a life of its own, both in France and elsewhere.

Décroissance peddles through the Latin world and beyond (2004-2008)

Although *décroissance* was made in France, it did not remain solely French. In 2004, the concept was mobilised as a slogan by green and antiglobalisation activists in Italy under the name *decrescita*. In 2005, Catalan energy activists started to speak of *decreixement* and Spaniards of *decrecimiento*. In 2006, *décroissance* made its way across the Atlantic among advocates of voluntary simplicity in Québec. The same year, anti-advertising organisations in the Wallonia region of Belgium would also start to speak of *décroissance*. *Décroissance* arrived in the francophone part of Switzerland in 2008 and around the same time in Germany as

[1] The book was described, later in January 2005, as the "handbook of degrowth" by *Le Monde Diplomatique*.

Postwachstum.[1] In all their diversity, these national trajectories have one thing in common: they imported degrowth from France.

I should note that these are not the only countries where degrowth currently exists. A more complete history should have also talked about Switzerland and the community around the degrowth-inspired journal *Moins!* (Less!) or Mexico where "*descrecimiento*" was adopted as a translation for the French *décroissance* at the First Colloquium *La Apuesta por el Descrecimiento* held in 2007 in Mexico City.[2] Also, I have not included countries where degrowth appeared after 2008, for example Brazil (see Léna and Nascimento, 2012), Hungary, Slovenia, Croatia, Austria, and more recently Sweden, UK, the United States (for a history of degrowth in the US, see Bliss, 2018), Finland, the Netherlands, and Scotland, each soon deserving a history of their own.

Decrescita in Italy

It is safe to say that Italy is the country with the most vibrant degrowth movement. Evidence of this fact is that there is not one, but two Italian degrowth movements. In between 2002 and 2004, the French *décroissance* inspired a number of activists and scholars to critically discuss economic growth, and later to create the two groups (*L'Associazione per la decrescita* in 2005 and *Movimento per la Decrescita Felice* in 2007) that are today framing the debate in Italy.

As often in the history of degrowth, it all starts with Serge Latouche; or rather, an unexpected meeting between Serge Latouche and Mauro Bonaiuti. Mauro Bonaiuti is an economist, expert in the bioeconomy of Georgescu-Roegen, student of Stefano Zamagni and disciple of the Italian school of civil economy. In May 2001, Bonaiuti met Latouche at a conference organised in Lecce (southern Italy) by the Italian Association for the History of Economic Thought on the topic of "*Lo sviluppo non sostenibile: il sottosviluppo mondiale nella storia del pensiero economico*" (Unsustainable development: underdevelopment in the history of economic thought, mt).

In his intervention, Latouche presented the ideas he would later publish in "Down with sustainable development! Long live sustainable degrowth!" (the presentation was titled as such). In the foreword Latouche wrote for Bonaiuti's *La grande transizione* (2013), he affirmed that it was then the first time he publicly used the word "degrowth" in Italy. The year after, Latouche invited Bonaiuti to contribute to the foundational n°280 issue of the French magazine *S!lence*. Titled "On the quest for relational goods," Bonaiuti's (2002: 13, mt) article ended with a sentence characteristic of a type-3 degrowth: "either material degrowth will bring spiritual and relational benefits, or it will never take place."[3]

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[1] For Italy, see the *Movimento per la Decrescita Felice* (which they translate as Movement for Happy Degrowth) and *la decrescita: Voci e proposte per un mutamenti di civiltà* (Degrowth: voices and proposals for a change of civilisation). For Québec, see the "Manifest for a Convivial Degrowth" of the *Mouvement Québécois pour une Décroissance Conviviale* (MQDC, 2006) as well as the *Collectif décroissance conviviale* created in 2016. For Spain, see *Decrecimiento: Salir de la addicción jerárquica, poner en el centro la vida* (Degrowth: Escaping the hierarchical addition, put back life at the centre). For Catalonia, see *Entesa pel decreixement* in Barcelona. For Belgium, see the "Manifeste pour l'objection de croissance" of the *Mouvement politique des objecteurs de croissance* (mpOC, 2009). For Switzerland, see *Réseaux Objection de Croissance – Suisse romande* (ROC, 2008). For Finland, see the degrowth.fi project of the Aalto University School of Economics in Helsinki.

[2] In 2008, the Mexican movement *Descrecimiento o Collapso!* (degrowth or collapse, mt) was born during one of these colloquiums and in 2010, the association *Ecomunidades* invited Serge Latouche to lecture in several Mexican universities.

[3] Bonaiuti then kept delving within the French degrowth network. In October 2003, the Italian author spoke at the *"La décroissance soutenable*" symposium in Lyon. In 2004, he met Vincent Cheynet, co-founder of the journal *La décroissance* thinking about the possibility of creating a similar Italian version of the periodical.

In 2004 at an Italian Summer school on the topic of the solidarity economy, a group of thirty scholars (including Bonaiuti) and activists decided to form a group dedicated to degrowth: the *Rete per la decrescita* (Network for degrowth, mt), which one year later, became *L'Associazione per la Decrescita*. On its website, *L'Associazione per la Decrescita* describes frames its purpose as the critical rethinking of the paradigms of economic growth and development, as well as the exploration in thought and practice of "democratic change in the direction of environmental sustainability, social equity, and the construction of forms of economy based on the sense of limit and on the principle of solidarity" (Rete per la decrescita, 2019, mt).[1] The *Associazione* organised 15 editions of a Summer school for "Degrowth and Solidarity Economy."

The first book on the topic available in Italian was a translation of the French *Objectif décroissance* in 2004. The Manifesto of the French Network of Growth Objectors for Post-Development (ROCADe) that Serge Latouche had written in March 2003 was also translated around that time. Of all the countries where *décroissance* has spread, it is in Italy that Latouche has been the most active. Several of Latouche's books were even published in Italian before they reached the French bookstores.[2]

In 2004, Maurizio Pallante, a literature professor, essayist, and advisor on energy efficiency for the Italian Ministry of Environment, published "*La decrescita felice*" (Happy degrowth, mt) attracting quite some attention among activists and scholars. For Aillon (2019I), Pallante brought some ideas that were not yet present in the French *décroissance*, for example the distinction between goods and commodities.[3] In December 2006, Pallante published the *Manifesto per la decrescita felice*, structured around the story of a homemade yoghourt.[4] Inspired by these texts, a group of people led by Pallante created their own organisation in December 2007: the *Movimento per la Decrescita Felice* or MDF (The Movement for Happy Degrowth, mt).

Spread all over Italy and mostly run by volunteers, the *Movimento* is organised in clubs or local groups (*circoli*) that "provide its supporters with the opportunity to meet, discuss, further elaborate the concept and – above all – to put it into practice, here and now!" (Decrescita Felice, 2019a). Having as a symbol "Pilli," a joyful bee pulling down a GDP curve, *Decrescita Felice* concentrates on four issues (lifestyles, technologies, politics, and culture). In the way they describe their work, the first three are understood as the legs of a stool supporting the fourth one: "the cultural paradigm of degrowth" (Decrescita Felice, 2019b). Among the initiatives of the movement: a publishing house (*Edizioni per la decrescita felice*), the regular organisation of conferences, a "*Università del saper fare*" (University of Self-Production) dedicated on do-it-yourself skills, Food Garden Groups, the organisation of the Degrowth Bike

[1] In 2019, there were five active workgroups in the movement:"degrowth, work, and globalisation," "agriculture and health," "environment and energy," "democracy and the degrowth culture," and "website and communication."

[2] Latouche is currently coordinating the same series on the precursors of degrowth, albeit with a focus on Italian authors such as Enrico Berlinguer (published in 2014), Tiziano Terzani (2014), Pier Paolo Pasolini (2014), and Laura Conti (2016).

[3] "The difference between 'commodities' and 'goods' can give rise to four types of relationship. First, there are goods which can only exist in the form of commodities, as they require advanced technology. Second, goods which can be something different from commodities in that they can be self-produced or traded within the context of community relationships in the giving and receiving of gifts. Third, goods which cannot be commodities: for example, relational assets, and finally commodities which cannot be considered goods as they don't respond to a need or fulfil any desire (waste)" (Pallante, 2013).

[4] In his preface to the French translation of Pallante's book, Latouche (2011b: 16) hypothesises that it might be the 2003 translation of the manifesto of the French network ROCADe in Italian that prompted Pallante to write the *Manifesto per la decrescita felice*.

Tour, a "Doctors for Degrowth" project, and another initiative called "Restaurant of Happy Degrowth" mapping restaurants having embraced degrowth.

The two Italian movements use the same term but with different aspirations. For Latouche (2013: 21-22), the difference is to be found in their stance towards politics and the role of theoretical research.[1]

The *Movimento* takes a "pragmatic approach to the concept of degrowth" trying to answer the questions that would occupy readers of any degrowth book: "Interesting theory, but what can I do concretely in my own small way?" (Decrescita Felice, 2019). As such it focuses on small-scale, practical changes like self-production or voluntary simplicity, especially having to do with living without fossil fuels (so here quite close to the British Transition Movement). The *Associazione*, on the other hand, is more academic for that it deals with abstract issues, such as social and political structures (Domeneghini, 2018I). It is also closely linked to the radical left and the greens. Whereas the *Movimento* is rooted in smaller territories the *Associazione* targets in priority national discussions and actions.

As for themes, Deriu (2018) ascribes different topics to each organisation. For the *Associazione*: political ecology; degrowth, politics, and democracy; common goods; solidarity economy and complementary currencies; climate change and environmental conflicts; ecology and health; food, biodiversity, and sustainable agriculture; work and care; ecofeminism and gender; North-South relations, migration, and cooperation. For the *Movimento*: energy efficiency and energy saving; self-production; goods vs. commodities; critiques of GDP; degrowth and health; degrowth and art; entrepreneurs for degrowth; degrowth, territory, and human settlements; degrowth and agriculture; family as basic nucleus of the community and natural place for learning non-utilitarian values.

The *Movimento per la Decrescita Felice* has gained more popularity than the *Associazione per la Decrescita* with the frequent appearance of Pallante in the media. The divergence in the last decade can be partly explained by personal feuds (e.g. between Pallante the 'yoghurt maker' and Bonaiuti the 'ivory tower scholar'). According to Aillon (2019I), however, the two movements have been converging, especially since the 2012 Venice conference. In Torino, which used to have one of the most active local clubs supporting degrowth (created in 2010, it peaked with a hundred members in 2012 before going down to around 30 today), both movements have already merged. The two movements are both part since 2014 of the *Rete Sostenibilità e Salute*[2] (Sustainability and health network, mt) and since 2017 of the *Rete delle reti*[3] (Network of networks, mt); and in 2019, Bonaiuti joined the scientific committee of the *Movimento*.

[1] "Maurizio Pallante has long specialized in the problems of reducing energy waste and possible alternatives to the prospect of the end of oil. […] For (M. Pallante), it is not so much a provocative slogan to signify a break from the growth society, but rather a concrete sets of practices already applicable today. […] Mauro Bonaiuti is instead more oriented towards abstract theory from which it derives more radical conclusions at the political level" (Latouche, 2013: 21-22).

[2] Summer school on transition towards degrowth in Torino (2015) titled "*Tra sostenibilità e sussistenza: ripensare il lavoro ripensando la città e il territorio*" (Between sustainability and subsistence: rethinking work by rethinking the city and the territory, mt).

[3] Summer school in June 2018 in Venaus Val Susa, *Scuola estiva delle reti delle reti* (Summer School of network of network) on the theme of "*Fare Comunità Oggi. Autonomia e Autogoverno*" " (Building Community Today. Autonomy and Self-government, mt).

The first Wikipedia page for "*decrescita*" was created in April 2006 by an anonymous contributor using the pseudonym "Riboeri." Only a paragraph long, it defined the term as follows (translation is mine):

> "a term invented by Nicholas Georgescu-Roegen […]. *Decrescita* describes an economic system based on different principles than the ones governing growth-based systems. The main hypothesis is that natural resources are limited and so that one cannot imagine a system dedicated to infinite growth. The amelioration of living conditions must therefore be achieved, not by increasing consumption, but by other means."

This definition is characteristic of the early denotation of degrowth, that is understood as a decline in the consumption of material and energy. The page would continue to be developed over the years to finally define degrowth in 2019 as "a current of political, economy and social thought in favour of a controlled, selective, and voluntary reduction of economic production and consumption, guaranteeing balance between man and nature or sustainable development that would consider the limits of development itself as well as equity among humans" (mt).

In 2012, the city of Venice hosted the Third International Degrowth Conference under the theme "The Great Transition: Degrowth as a passage of civilization" (more detail about the conference in the next section). It is the *Associazione* that organised the conference, even though the *Movimento* was a partner and had several keynote speakers present at the event. Another conference worth mentioning is the "Degrowth, Sustainability, and Health" at the Italian Parliament in October 2013 that led to The Bologna Manifesto for Sustainability and Health in 2014, which even without using the word "*decrescita*," had been greatly inspired by it (Aillon, 2019I).

On the political scene, *decrescita* has been tied to the 5-Star Movement. Its founder Beppe Grillo, an ex-comedian that collaborated with Maurizio Pallante before entering politics, was already referring to limits to growth and the dehumanising effects of contemporary society in his comedy shows in the 1990s. In the last election, the 5-Star Movement defended a re-evaluation of all big infrastructural projects (including the controversial high-speed train TAV project). Lorenzo Fioramonti, an established growth-critical economist often cited in the degrowth literature, was put forward by the party as Minister of Economic Development.[1] Several members of the different degrowth local clubs also entered politics (as MPs, senators, or mayors), each bringing bits of the idea into the political scene.

Décroissance in Belgium

Décroissance arrived in Belgium shortly after the publication of the February 2002 special issue of the French magazine *S!lence*. The Lyon-based *Casseurs de pub* (Adbusters) ran by Vincent Cheynet and Bruno Clémentin sent several texts of what would later become the 2003 book *Objectif décroissance* to Bernard Legros, an activist working for the association *Résistance à l'Agression Publicitaire* (Resisting Advertisement Aggression, mt). Finding the term useful,

[1] The 5-Star Movement won the 2018 general election and formed a coalition government with the right-wing regionalist political party *Lega Nord*. Yet, Fioramonti was only assigned to the post of Vice-Minister of Education, which limited his ability to promote a degrowth agenda (even though he still periodically organised public debates on the topic).

Legros decided to use it to frame the anti-consumerism campaign of his association, leading to the first use of *décroissance* in the country (Legros, 2019I).

One can find traces of the term in several places. For example, the 2005 manifesto ("Let's liberate public space from commercial advertisement!" mt) of the anti-advertisement association *RESPIRE* used it ten times to describe a necessary decrease in consumption.[1]

In 2006, the recently-created Namur-based association the *Groupe de Réflexion et d'Action Pour une Politique Ecologique* or Grappe (Action and Reflection Group for an Ecological Politics, mt) made a call for all organisations embracing the term "*décroissance*" to organise as a network. Whereas twenty associations showed up at the first meeting, that number went down to ten at the next one (Legros, 2018I). The network first organised as the *mouvement Belges des objecteurs de croissance* (Belgium movement of objectors to growth, mt), which dissolved soon after because of internal conflicts. They then re-appeared as the *Association d'objecteurs de croissance* (adOC), the organisation that would become the *Mouvement politique des objecteurs de croissance* (mpOC) in 2009.[2]

The founding event of the mpOC was a one-day symposium organised at The Free University of Brussels in February 2009. During the morning session, the Swiss postdevelopment scholar Marie-Dominique Perrot lectured an audience of 300 with a presentation titled "To unbelieve in order to degrow? Objections and suggestions to growth" (mt). In the afternoon, Serge Latouche filled an 800-seat amphitheatre on "Towards a change of paradigm." The event was a "phenomenal success" (Legros, 2018I, mt).

It is during this meeting that Jean-Baptiste Godinot launched a call to organise a national degrowth organisation, then receiving about a hundred signatures. A group stabilising around forty people would meet several times during the same year to write a manifesto ("*Manifesto for the objection to growth*," mt) that would be published in October 2009 marking the official birth of the mpOC and with it of the public existence of degrowth in Belgium.

The manifesto is organised in three parts. It starts by pointing to a fourfold crisis (ecological, social, spiritual, and political), then criticises "false solutions" (progress, technological innovation, and sustainable development), and finally make a plea for "escaping growth" (mpOC, 2009: 4, mt) and establishing a convivial, directly democratic society. The manifesto ends with a list of seven principles.[3] The text is diverse and contains the three different dimensions of degrowth: (1) decline *of* "production and consumption" (ibid. 5, mt); (2) emancipation *from* the "ideology of progress, illusion of technological innovation, [and] the sham of sustainable development" (ibid. 2, mt), "market consumerism" (ibid. 5, mt), and the "alienation of productivism" (ibid. 6, mt); and (3) utopian striving *toward* a "desirable society"

[1] "Deconstruct the myths to construct alternatives. From 'growth' to degrowth of consumption" (Respire, 2005: 4, mt); "Current economic growth is linked to growth in pollution, to degrowth in natural resources, to growth in inequalities, to growth of angst, to degrowth of meaning, … and, without a doubt, to the 'growth' of violence and the 'degrowth' of peace" (ibid. 4, mt); "This (ecological sustainability) requires a degrowth of consumption" (ibid. 5, mt); "Degrowth of consumption is not an alternative […] but a necessity, which we will not be able to negotiate with the planet" (ibid. 5, mt); "Instead of the irrational and irresponsible myth of infinite growth, we propose the choose the *way of degrowth* of consumption (of natural resources), which in itself does not constitute a goal but rather a consequence of our current ways of life" (ibid. 5, italics in original, mt); "degrowth of consumption constitute a strong alternative to achieve a desirable collective good life" (ibid. 6, mt).

[2] In the Summer of 2007, the "*Démarche de l'après-croissance*" (a play on words, "the walk/process of after-growth"), the first degrowth march between Maubeuge and Liège was organised in the spirit of the one led by François Schneider in 2005 in France.

[3] (1) relocalisation of economic activities, (2) food and energy sovereignty, (3) an economy based on repair and recycling, (4) reduction of waste and the end of planned obsolescence, (5) public or non-market services for the common good, (6) cooperation, autonomy, and direct democracy, and (7) respect and protection of cultural and biological diversity.

(ibid. 5, mt), a "bioeconomy" (ibid. 6, mt), or a "direct, participative, and solidary democracy" (ibid. 6, mt).[1]

In 2010, Tim Jackson, British author of the acclaimed *Prosperity without growth* (2009), came to lecture at the Université Libre de Bruxelles. This is significant because Jackson's without-growth approach would remain the main influence over the Belgium growth-critical scholarship (in contrast to the more radical French and Italian degrowth).

In 2011, Isabelle Cassiers, an economics professor at the Université catholique de Louvain, published the edited book "*Redéfinir la prospérité: Jalons pour un débat public*" (Redefining prosperity: foundations for a public debate, mt), prefaced by Dominique Méda.[2] According to Malay (2019I), this is the first academic book on degrowth/post-growth written by a Belgian author.

In November of the same year, one of the four topics of the 21st symposium of Belgium economists ("Growth: facts and perspectives," mt) was "Which economy in a post-growth era?" involving ten scholars.[3] This event led to the publication of a book edited by I. Cassiers, K. Maréchal, and D. Méda – "*Vers une société post-croissance: intégrer les défis écologiques, économiques et sociaux*" (2017, Towards a post-growth society: Combining social and ecological challenges, mt) – including contributions from all ten authors.

In April 2012, the journal *Kairos: Journal antiproductiviste pour une société décente* (antiproductivist journal for a decent society, mt) released its first issue – "For a RTBF [radio channel] without advertisement" (mt). On its website, the journal describes itself as making the promotion of the "objection of growth" with the goal "to emancipate from dominant ideologies: consumerism, growth, development, progress, commodification […] workism and employability, competitiveness, competition and free trade" (Kairos, 2019, mt). The journal has published 40 issues and is still running today. One can also find a handful of degrowth articles in the environmentalist magazine "*Imagine demain le monde*" (Imagine the world tomorrow).[4]

In 2013-2014, the mpOC organised a series of academic conferences on the topic of "*Une société du Bien Vivre. Pour sortir de la tyrannie de l'économie*" (A Well-Being Society. Escaping the tyranny of economy, mt) with keynotes including Bernard Legros, Pierre Eyben, and Michel Weber (*Comment penser et construire un avenir solidaire ?*), Paul Ariès and Christian Sunt (*Construire une société du bien-vivre*), and Serge Latouche (*Construire l'avenir avant ou après l'effondrement*).

Should also be mentioned four other conferences in November 2014, this time not organised by the mpOC, but two other organisations: "For a degrowth society?", "Are we too many on Earth?", Activism and diffusion of ideas", and "Degrowths: a topic too controversial for the media?" As well as a symposium at ULB in June 2015 titled "*Finie la sainte croissance?*" (The end of sacred growth? mt).

With two active cores in Liège and Louvain-la-Neuve, the Belgian movement remained small peaking at around 200 paying members. Legros (2018I, mt) reports on the achievements of the mpOC since its creation: "in 10 years, we have not succeeded in pushing the idea on the

[1] Careful readers will notice that the structure of the Belgium manifesto (2009) is identical to the one from Québec (2007).
[2] "*Redéfinir la prospérité*" was already of a research network within the *Fonds de la Recherche Scientifique* (Fund for Scientific Research) headed by Tom Bauler (ULB) and Géraldine Thiry (UCL).
[3] Isabelle Cassiers, Kevin Maréchal, Eloi Laurent, Dominique Méda, Bernard Perret, Thomas Bauwens, Sybille Mertens, Stephan Kampelmann, Géraldine Thiry, and Olivier De Schutter.
[4] For example, "No infinite growth on a finite planet" (n°64, 2007) and "Degrowth: under the taboo, hope" (n° 81, 2010).

political agenda. […] the history of degrowth in Belgium is a political failure but a philosophical success." As he details elsewhere (Décroissance Ile de France, 2019), instead of a political movement, we are rather only "a philosophical club." Ideas were developed within the movement (ranging from a manifesto in 2009 to a political programme in 2011) but remained ignored by the broader public, including the Belgian Green Party.[1]

Décroissance in Québec

In her Master's thesis, Tremblay-Racette (2014) dates the emergence of *décroissance* in Québec to discussions among voluntary simplicity scholars and activists around the figure of Serge Mongeau in 2006. Serge Mongeau co-founded the *Institut pour une Écosociété* in 1992 and the *Réseau Québécois pour la Simplicité Volontaire* in 2000. He was one of the participating authors in the 2003 French book *Objectif décroissance*, which was co-published by a Canadian publisher in Montréal he himself founded (Écosociété).

In a contribution titled "Towards voluntary simplicity" (mt), Mongeau describes degrowth as necessary to avoid environmental instabilities and the rise of authoritarian States and proposes three lines of action. He speaks of a "convivial degrowth" to differentiate a downshifting that is imposed contra one that is chosen. To "free oneself from the system" through voluntary simplicity, to "unite as to make more with less" through the creation of local communities, and to create national and international organisations able to enact bottom-up democratic changes (Mongeau, 2003: 114, mt). The second half of his contribution is fully dedicated to voluntary simplicity, "probably the unique hope for the future of mankind" (Mongeau, 1998 cited in Mongeau, 2003: 115, mt) and "a way for people to start acting here and now" (Mongeau, 2003: 116, mt). As a retired doctor, Mongeau puts an emphasis on the health consequences of overconsumption on individuals, communities, and ecosystems.

In April 2006, Mongeau gave an open lecture at the *Université du Québec à Montréal* (UQAM) on the topic of degrowth. This event led to the formation of an informal group of discussion that would meet regularly throughout the year. In the Fall of 2006, Mongeau associated with nine other authors[2] to write the *Manifeste pour une décroissance conviviale* (Manifesto for a convivial degrowth, mt) which would be released at the beginning of 2007. Let us stress a few points made by the authors of the manifesto.

The text starts by accusing the ideology of growth of being the source of a fourfold crisis (ecological, social, spiritual, and political), goes on criticising sustainable development, technological change, and the ideology of progress, make an appeal to "*réinventer le vivre ensemble*" (reinvent a way to live together, mt), and ends by listing several desirable changes.[3] The manifesto also gives a taste of how life in a degrowth society might look like:

> "From our experience of voluntary simplicity, we are convinced that a degrowth society that will be based on populations directly satisfying their needs, at the local scale, will improve the quality of life while preserving a healthy environment, will allow most people to

[1] In his study of degrowth in the Belgium political landscape, Goor (2018) concludes that only the green party (Ecolo) embraces the idea of degrowth, albeit only in parts. A few NGOs spoke of *décroissance* like *Les Amis de la Terre* and *Nature et Progrès*.
[2] Louis Marion, Julien Lamarche, Jean-François Cantin, Maude Bouchard-Fortier, Léo Brochier, Jean-Marc Brun, Arthur Lacombe, Jacinthe Laforte, and Marcel Sévigny, all part of a discussion group on the topic of degrowth.
[3] Embracing voluntary simplicity, work time reduction, fare-free public transport and slowing down of cars, construction of bike lanes and pedestrian districts, a maximum differential ratio for wages, and redistributive policies.

> participate in decision-making, mutual aid and gratuitous exchanges, creativity and opportunities to flourish. […] work will be an opportunity to participate in community life according to one's talents and skills and not a necessity to earn a living. Production units will remain small and use simple machines" (Mongeau et al., 2007: 7, mt).

The text was promoted in May of the same year through the organisation of the symposium "*Sortir de l'impasse : la décroissance ?*" (Escaping the dead-end: degrowth? mt) at the Université du Québec in Montreal. The event was organised in cooperation with Jean-Claude Besson-Girard, a well-known degrowth author from France, then editor in chief of the French journal *Entropia*. For Tremblay-Racette (2014, 2019I), this conference was the founding event of degrowth in Québec.[1]

Louis Marion, a co-author of the manifesto became one of the most influent figures of *décroissance* in Québec. Marion is a philosopher whose research focuses on issues related to technique, with a specific focus on German philosopher Gunther Anders. For Marion, degrowth is defined by four aspirations: ecological sustainability, fairness, and liberation from both the ideology of growth and technique-based capitalism (Marion, 2013: 13). At the level of necessary changes, the author falls back on Mongeau's tripartite division between individual changes (voluntary simplicity), concrete alternative at the collective level, and a non-violent taking of power at the State level. The originality of Marion in Québec lies in his critique of work and his plea for the abolition of wage-labour (along the same lines as André Gorz in France) as well as his critique of technology and plea for convivial tools – in Ivan Illich's understanding of the term (Marion, 2012b).

These two events (the manifesto and the conference) led to the creation in June 2007 of the *Mouvement Québécois pour une Décroissance Conviviale* (MQDC). The initiative started with a group of 30 people, all signatories of the recently published *Manifeste pour une décroissance conviviale*. The objective of the movement was twofold: (1) raising awareness in Québec about the impossibility of pursuing further economic growth and (2) work towards the building of an equitable, autonomous, solidary, and frugal society (MQDC, 2019, mt). The MQDC took as slogan "*Moins de biens ! Plus de liens !"* (Less goods! More relationships! mt) and picked a logo that reminds of the bee of the Italian *Movimento per la Decrescita Felice*: a group of five people, including two children, pulling down a curve with ropes, with a snail slowly sliding downward on it.

Yves-Marie Abraham, a French immigrant that has become one of the most active degrowther in Québec, describes the idea of degrowth put forward by the MQDC as "very close" to the one in France (Abraham, 2019).[2] In the recent book *Guérir du mal de l'infini*

[1] For contributions to this event, see Mongeau (2007).

[2] The author describes the "degrowth project" in the following terms: "produce less, share more, and make genuinely democratic decisions about how we should live together. These principles could be implemented, first, by relocalizing the production of the goods and services we require with the aim of self-production. Such a shift would ideally be orchestrated by municipalities governed and federated according to the principles of direct democracy. We would need to rely on Low Tech, that is, methods of production controlled by users and adapted to locally available resources, particularly with regards to energy. All of this would be based on the restoration and creation of the commons – self-managed collectives whose members equitably share the means of production (land, tools, knowledge, etc.)" (Abraham, 2019).

(Curing the malady of the infinite),[1] Abraham (2019b) proposes his own vision of degrowth.[2] The author sets a triple criticism of growth as "self-destruction," "injustice," and "alienation" which he addresses by offering degrowth, which he defines in the three principles of "producing less" (to avoid environmental breakdown), "sharing more" (for justice), and "decide together" (to avoid alienation). (I will have more to say about Abraham's theory of degrowth in Chapter 6: Reviewing existing theories of degrowth.)

The MQDC became active on several grounds. In January 2009, the group led by Mongeau created the trimestral journal *l'Objecteur de Croissance: Un journal à faire passer de main en main* (The objector to growth: a journal to circulate by hand, mt) in the style of the French *La Décroissance: Journal de la joie de vivre* (that is with opinion pieces, cartoons, and a strong degree of participation with its audience), albeit with a less aggressive tone. In the editor's introduction of the first issue, Jacques Samuel (2009, mt) describes it as "the first journal in Québec fully dedicated to spread the idea [of degrowth]." It published 14 issues between 2009 and 2012 each on a specific topic.[3]

On Earth Day 2009 (April 22th), a group of 20-25 people occupied the Sherbrooke station in Montreal for 30 minutes, installing banners and distributing tracts about the MQDC in the presence of a few musicians and a clown (two other protests would be organised in June 2011 and June 2012 against the Formula One Canada Grand Prix in Montréal). In December 2009, the *Café décroissant* opened in Montréal and became one of the hotspot of the social movement. In the end, the movement remained small, with around ten active coordinators, and a maximum number of 700 members registered to receive the weekly newsletter (Mongeau, 2013). In October 2018, the collective *Décroissance conviviale au Québec* (a group that replaced the MQDC) organised the first "degrowth festival" at the campus of the University of Montreal with 800 participants (according to its Facebook event) and ten guest speakers.

On the academic side, Yves-Marie Abraham, Louis Marion, and Hervé Philippe, three members of the MQDC, organised a 100-participant symposium at HEC Montreal on 18-19 May 2009 ("*Pour la suite du monde: développement durable ou décroissance soutenable?*" – So that life goes on: sustainable development or sustainable degrowth? mt); an event that would later be turned into an edited book: "*Décroissance versus développement durable*" (Abraham et al., 2011). In April 2010, Pierre Rabhi gave a series of lectures all over Québec.

In 2011, a philosopher from Québec (Louis Marion), a French biochemist (Hervé Philippe), and a French sociologist (Yves-Marie Abraham) founded the *Collectif de Recherche Inter-universitaire et Transdisciplinaire sur les Impasses de la Croissance* or CRITIC (Interdisciplinary and Transdisciplinary Research Group on Limits to Growth, mt) with the goal of "conducting research on the different perverse effects of pursuing economic growth and solutions to build societies liberated from our growthism" (CRITIC, 2019, mt). With around thirty participants, the group organised conferences and regular seminars – for example,

[1] The term "malady of the infinite" comes from Durkeim's *Le suicide* (1897) and denotes the troublesome condition of insatiability resulting from having unlimited needs – this is the never satisfied growth subject I described in Chapter 1 giving rise to the "myth of scarcity" (Abraham, 2007).

[2] In 2014, Abraham gave a talk titled "Let us decolonise our imaginary" (mt) at a TEDx event in HEC Montréal presenting degrowth as an alternative option to an impossible green growth: "this second option, the one of a chosen degrowth rests on the hope of a soft exist from our model of civilisation" (Abraham, 2014: 7min54).

[3] Environment, spirituality, urbanisation, advertisement, *vivre ensemble* (organisation of social life), sport and competition, World forums, education, infrastructures, finance, degrowth in the Americas, politics (the first two issues had no specific topic).

"*Creuser jusqu'où? Les limites de la croissance*" (How far should we dig? Limits to growth, mt) on 13 May 2013 at HEC Montreal (for contributions, see Abraham and Murray, 2015).

Another key academic event was the organisation in May 2012 of the first international degrowth conference outside Europe (more detail in the next section). Reflecting on the conference, Marion (2012a) reports on a conflict at this event between the francophone and anglophone interpretations of degrowth, with the former being identical to the French *décroissance* and the latter closest to sustainable development and green capitalism. What this event showed is that *décroissance* was, at that time, almost absent in the anglophone Canadian world.[1] Abraham (2019) explains this difference by the fact that France and Québec share the same language (and there are indeed very few English translation of French texts on *décroissance*) and point to different political leanings between the socialist-inspired MQDC and the more liberal background of the anglophone scholars present that day.

As for education, Québec is one of the first places in the world where a course on degrowth was created – "*La décroissance soutenable: théorie et pratiques*" (Sustainable degrowth: theory and practices, mt). (The only prior course that I know of is the one given by Agnès Sinaï on *les politiques de décroissance* at the SciencesPo, Paris School of International Affairs, and since 2010.) In the Fall semester of 2013, Yves-Marie Abraham ran an experimental course on the topic of *décroissance conviviale* at HEC Montréal, the graduate business school of the University of Montreal. In its experimental format, the course was divided into two parts (one on the "critiques of growth" and the other on "degrowth principles and proposition"). In May 2014, the course was validated by the university to become a regular course. A noteworthy outcome of this course is the journal *l'échappée belle* (the beautiful escape, mt) who has been running since 2015. With the ambition to focus on the specific solutions proposed by degrowth, the journal has published two issues so far – one on "Food and degrowth" and the other one on "Degrowth and housing."

There is no degrowth party in Québec. For Abraham (2019), this is a conscious decision: "The MQDC also considered it more strategic to create a degrowth group inside *Québec Solidaire*, the most left-wing party represented in Quebec's National Assembly, rather than form a new degrowth party." Looking at the party's manifesto during the 2018 elections, one can indeed sense the presence of degrowth ideas, even though the word itself is not used. The party talks of "go[ing] beyond capitalism," "to explore alternative economic systems," promote the "socialization of economic activities" and "a strong public economy (public services, state enterprises and nationalization of major firms in certain strategic sectors) and on promotion and development of a social economy (cooperative, community sector, social enterprises)." All degrowth-related activities in Québec are concentrated in the city of Montreal and revolve around a handful of people, S. Mongeau, Y.M. Abraham, L. Marion, and H. Philipe previous to his return to Europe (Tremblay-Racette, 2019I).

Is there an interpretation of degrowth unique to Québec? Tremblay-Racette (2019I) says no, pointing to the fact that all degrowth thinkers in Québec directly take their inspiration from European thinkers (e.g. Latouche, Gorz, Illich, Anders). And yet, one specificity that strikes me is the focus on voluntary simplicity, a notion that is not as prevalent in other countries where

[1] There are exceptions. For example, in 2011, the party "De-Growth Vancouver" ran three candidates for city council, receiving collectively just over 20,000 votes with a campaign budget of $1,300 (Richie, 2011). In 2010 and 2011, degrowth symposiums gathering around 300 participants took place in Vancouver.

degrowth is present.[1] Difficult also not to make the link between the renowned Quebecer culture of hospitality and mutual help and some of the values of degrowth. For example, in the 2007 manifesto, the authors appeal to the "value of solidarity that is already deeply embedded in Quebecer culture, where the pleasure to help out, the creativity of inventors, and the conviviality between neighbours are well-known" (Mongeau et al., 2007: 11, mt).

Decrecimiento in Catalonia and Spain

Catalonia holds a particular place in the history of degrowth for that it has become the world academic centre of the movement. In the foreword of the Catalan edition of *Degrowth: A Vocabulary for a New Era* (2015), Federico Demaria dates the emergence of *decrecimiento* to discussions about the energy crisis and potential alternatives on the online forum *crisisenergietica.org* in 2005. In October of the same year, the magazine *Userda*: *La Revisa de pensament ecologista* (Userda: the review of ecological thinking, mt), then directed by Xavier Borràs, published a special issue entitled "*Consumim? O ens consuim*." In 2006, the book *Objectif décroissance* was translated in Catalan. In December 2006, the environmental organisation *Una sola terra* (only one Earth, mt) organised a conference under the theme of "*El decreixement per salvar la Terra*" (Degrowth to save the planet), which took place at the Barcelona Centre for Contemporary Culture (CCCB) in the heart of the city.

Demaria (2015) tells the story of how the *Entesa pel Decreixement* came to be the first degrowth movement of the Iberian Peninsula. In 2006, Arnau Montserrat, an activist living in an eco-village called Can Masdéu located near Barcelona, posted the following message on the *Energia Decreixent* (energy degrowth, mt) mailing list:

> "Movements of anti-developmental sensitivity are not lacking in our region, but are they articulated in a common proactive vision? […] 'degrowth' could be a more appropriate expression to provoke debate and put the finger on the sore of what could be considered the central problem of this system: perpetual growth" (cited in Demaria, 2015).

At the beginning of 2007, his call was answered by a number of activists and scholars and the movement took form. A couple of months later in March, the University of Barcelona held a conference on "*Decreixement, idees per desfer el creixement, i refer the món*" (Degrowth, ideas to unmake growth and remake the world, mt) with speakers such as Serge Latouche, Jordi Roca, Daniel Gómez, Enric Tello, and Helena Díaz.

On the initiative of one member of the *Entesa pel Decreixement* (Stefano Puddu), Serge Latouche's *Le pari de la décroissance* (2006) was translated in Spanish in 2008 (two of his other books – Latouche, 2007a and Latouche, 2011a – would follow in 2009 and 2012). In March 2008, a bicycle march led to the creation of another Catalan degrowth network, the *Xarxa pel Decreixement* (Network for degrowth), a 300-people group organised by geographical location and thematic focus (education, food, communication, contra-hegemonic economy, and defence of the territory). The group was dissolved a few years later.

[1] See, for example, the second video of the three-part series of mini-documentaries on degrowth directed by journalist Olivier Arbour-Masse for *Rad* in the Summer of 2018 (Arbour Masse, 2018a, 2018b, 2018c). (The first video was on defining degrowth while the third interviewed Andrea Levy, Eric Pineault, and Yves-Marie Abraham about necessary changes for degrowth, respectively for each others, work time reduction, the end of planned obsolescence, and the curtailing of the power of private firms.)

On the academic side, a group of researchers at the Institute of Environmental Science and Technology (ICTA) at the Autonomous University of Barcelona created the *Research & Degrowth* group in preparation for the second international degrowth conference, to be held in Barcelona in the Spring of 2010. Part of the group were Joan Martinez-Alier, Giorgos Kallis, Federico Demaria, Filka Sekulova, Giacomo D'Alisa, Carlos Taibo, and Joaquim Sempere, among others, who would regularly meet for a reading group that has been continually running since 2010 and is still running today.

Six years later, ICTA organised the first degrowth Summer School, which is where I personally discovered the concept of degrowth. Today, the department is more active than ever with half a dozen PhD students working on degrowth-related topic, several research projects, and a newly created Masters programme (20 students in 2018 and 33 in 2019). As evidence of the importance that ICTA has taken in the degrowth international research scene, one can point to the impressive number of key figures of degrowth who have been throughout the years somehow linked with the department.[1] Schmelzer (2019: 380) goes as far as talking of "the Barcelona school of degrowth."

A key degrowth figure in the region is Joan Martinez-Alier. Since 1975, Martinez-Alier has held the position of Professor in the Department of Economics and Economic History at the Universitat Autònoma de Barcelona. He is one of the first promoters of ecological economics and a founding member of the 1987 International Society for Ecological Economics.[2] One of his earliest contribution to the field was an article on "Towards a sustainable degrowth in rich countries," published in the *Revista de Economía Crítica* (Martinez-Alier, 2009). Today, he builds on the "environmentalism of the poor" (Martinez-Alier, 2002) to promote an alliance between degrowth in the global North and environmental justice movements in the rest of the world (for recent contributions see Martinez-Alier, 2012; Abkulut et al., 2019). For example, one concrete initiative currently running at ICTA is the Environmental Justice Atlas that has reported almost 3,000 cases of environmental justice conflicts all around the globe.

A good example of degrowth in practice is the *Catalan Integral Cooperative* (CIC), which was created in May 2010 by degrowth activists. It chose to call itself "integral" to emphasise its attempt to construct a complete alternative economy. It comprises more than 300 projects, including eco-networks, a cooperative bank, and communal living initiatives (for more, see Dafermos, 2017). Catalonia is also famous for its rural repopulation experiments, for example Can Piella, Kan Pasqual, or Can Masdéu, where abandoned buildings are occupied and transformed into alternative living spaces and community centres.

One of the first feature film on degrowth is also from Spain. In 2016, the two Spanish directors (Luis y Manuel Picazo Casariego) released the full-length documentary *Decrecimiento: Del mito de la abundancia a la simplicidad voluntaria* (Degrowth: from the myth of abundance to voluntary simplicity).

Degrowth in Catalonia and Spain is decentralised and there exists neither a national movement or a manifesto. One could still point to the Catalan 15M, a movement "influenced

[1] Joan Martinez-Alier, Giorgos Kallis, Federico Demaria, Filka Sekulova. Giacomo D'Alisa, Salvador Pueyo, and Erik Gómez-Baggethun among other also involved in degrowth discussions, albeit with a more critical stance, e.g. Mario Giampetro, Jeroen van den Bergh. Stefan Drews, and Beatriz Rodríguez-Labajos.

[2] Reference text for his early work in ecological economics is Martinez-Alier (1987).

directly by the degrowth movement" (Nus, 2016), who developed after a long series of protests against neo-liberal policies, and who would later in 2016 features as one of the article in the German Degrowth(s) in Movements initiative.

One could also point to the *Nous Horitzons* foundation of the party *Iniciativa per Catalunya Verds* (Initiative for Catalonia Greens) who published a special issue of its magazine on the topic of "*Decreixement Econòmic: nous arguments sobre els limites del creixement*" (Economic Degrowth: new arguments on limits to growth). As for a manifesto, Jorge Riechman and others published the *última Llama* (Last Call) in the Summer of 2014. Even though the authors do not use the term "degrowth," the idea is haunting every page.[1]

Postwachstum in Germany

Germany has a rich history of growth critiques dating back to the 1970s.[2] One example is the book series on "*Technologie und Politik. Das Magazin zur Wachstumskrise*" (Technology and Politics. The journal on the crisis of growth) that ran from 1974 to 1985, along with the discussions generated by the creation of the Green Party (*Die Grünen*) in 1980 (for more on this period see Schmelzer, 2015).

This, however, is very similar to the objection to growth I have described in France in the 1970s and cannot be considered anything else but a prehistory. The emergence of German degrowth had to wait a wave of criticisms that emerged in the wake of the Global Financial Crisis of 2008 and that gained wide popularity at the 2011 conference *Jenseits des Washstums?!* (Beyond growth?!, mt) in Berlin. It is this conference that I take as the founding event of the German degrowth movement.[3]

The translation of "*décroissance*" in German is not as straightforward as it is for Italian and Spanish. Indeed, it is not linguistically possible to coin the precise equivalent of "degrowth" (Muraca and Schmelzer, 2017: 188). Instead, several translations exist: "*Postwachstum*" (postgrowth), "*Wachstumsrücknahme*" (taking growth back), and "*Entwachstum*" (outgrowing something). Since the Leipzig conference, it has also become common to use the English word "degrowth" (e.g. in the name of the blog degrowth.info), which Drews and Reese (2018: 8) claim is "the most widely used term in the debate in Germany." (I will for the rest of this part use *Postwachstum.*)

A key *Postwachstum* thinker is Niko Paech, a professor at the department of Production and Environment at the University of Oldenburg in Northern Germany. The oldest article I could find where the author starts tackling the growth issue is Paech (2005). On the international scene, he is most famous for the first German monograph on the topic to be translated in English, "Liberation from Excess: The Road to a Post-Growth Economy" (2012). Since 2008

[1] "if humans were to maintain the current trends of growth […] the most probable outcome during the 21st century is the collapse of civilization"; "Today, there is mounting evidence indicating that the path of unlimited growth is similar to a slow motion genocide […] the years of seemingly unlimited progress are forever gone"; "We are trapped in the perverse dynamics of a civilization that does not work if it does no grow, even if growth destroys the resources that maintain civilization"; "Our production- and consumption-oriented society cannot be sustained by the planet"; "we are speaking about defining a new model of society that acknowledges reality, makes peace with nature, and makes possible a good life within the ecological limits of the earth" (Last Call, 2014).

[2] Muraca and Schmelzer (2017: 186) go as far as to argue that "many of the arguments and proposals of the current degrowth agenda were essentially already discussed and promoted by the early German Green Party."

[3] Angelika Zahrnt, one of the key figure of the German *Postwachstum*, recalls that "when our book Post-Growth Society was published in 2010 in German, the term was entirely unheard of" (Zahrnt, 2016).

and until 2018, Niko Paech together with Werner Onken organised a public seminar at the University of Oldenburg (*Ringvorlesung zur Postwachstumsökonomie*, Lecture series on postgrowth economy).

An active node of degrowth research in Germany is the University of Jena with "The Research Group on Post-Growth Societies" (*Postwachstumsgesellschaften*). They have a running Working Paper series (mostly in German). A key figure in this research group is sociologist Harmut Rosa. French and English-speaking degrowth scholars often use his theory of social acceleration (Rosa, 2013 – English translation) and his concept of "resonance" (Rosa, 2018 – French translation), even though the author himself does not use the term degrowth. In September 2019, the University of Jena hosted the "Shapes of Post-growth Societies" forum.

In 2010, Irmi Seidl and Angelika Zahrnt published an edited book titled "*Postwachstumsgesellschaft*" (Postgrowth Society), which would become one of the German classic on the topic. The publication of the book also prompted the creation of the Blog.Postwachstum web portal, which is still running today (essentially in German).

During the same year, the *Netzwerk Wachstumswende* (Network growth-turn) was created in Germany by some young members of the *Vereiningung für Ökologische Ökonomie* (German Society for Ecological Economics). It took the form of an online platform (*Wachstumswende.de*), which has since then been one of the main initiative linking growth-critical scholars and activists, as well as local discussion groups and other projects. The following year, an association (*Förderverein Wachstumswende*, supporter organisation for growth change) was created to formally run the network

In 2011, the *Konzeptwerk Neue Ökonomie* (Laboratory for new economic ideas) was created in Leipzig (Nina Treu is one of the co-founder). On its website, it describes its purpose as such: "We stand for a new economy. An economy by all and for all, ecologically sound and socially just." *Konzeptwerk* started to be interested in degrowth in 2013, and for Treu (2019I), it is today the most active player when it comes to degrowth in Germany. (It is them who used to maintain the degrowth.info web portal before it becoming a self-organised initiative in 2018.)

In May 2011, a conference organised by Attac Germany[1] and titled *jenseits des Wachstums!?* (Beyond Growth?!) took place in Berlin with more than 2,500 participants, including political groups, church organisations, and trade unions.

From January 2011 to April 2013, a group of 34 experts and MPs appointed by the German parliament were entrusted with an *Enquete Commission* on the topic of "Growth, Prosperity, and Quality of Life: Paths to Sustainable Economics and Societal Progress in the Social Market Economy"[2] (For more on the report, see Zimmer et al., 2014 and Strunk, 2015). The enquiry led to a lengthy report (more than 800 pages) but without either a vision of a post-growth society or concrete policy proposals to move in that direction. Strunk (2015) argues that the report failed to explore visions of a society independent of growth. For Treu (2019I), the commission popularised the idea but did not lead to any concrete changes.

[1] Attac's interest in critiques of growth existed before this conference. As early as 2009, Matthias Schmelzer and Alexis Passadakis, two members of the Attac Coordination Group published a discussion paper on post-growth, which was followed in 2010 by a text signed by Attac itself.

[2] "The Enquete Commission aims to advance the programmatic examination of Germany's well-being prospects for the coming decades, of our understanding of prosperity and well being and of the principles that may help us to meet the economy, social and ecological challenges" (cited in Strunk, 2015: 2).

The keystone event in the German history of degrowth is the Leipzig conference of September 2014, brought in Germany by Barbara Muraca, then a Senior Researcher at the Center for Advanced Studies 'Post-Growth Societies' at the Institute of Sociology of the University of Jena. Being part of the organising committee, Treu (2019I) recalls a horizontal, self-organised, directly-democratic process involving people belonging to diverse networks – hence the exceptional attendance (almost 3,000 participants). This event gave visibility to degrowth and created momentum for its further development in Germany and around the world at a pace never seen either before or after this period. Several universities organised lecture series to follow-up with discussions happening at the conference, and NGOs opened up to a term that was unappealing to most of them (Treu, 2019I).

Another important event, or rather series of event, is the Degrowth Summer School happening alongside the yearly Climate Camp in the German Rhineland region. I personally attended the Summer School of 2016 and 2018 as a participant and the one of 2019 as a course coordinator where I taught a course titled "Exploring degrowth controversies." The presence of a Summer school on degrowth at a climate camp with a focus on environmental justice has made several authors comment that this could be constitute a powerful alliance between the two ideas (e.g. Abkulut et al., 2019).

What characterises the German *Postwachstum*? Muraca and Schmelzer (2017) point to strong feminists and eco-feminist influence (for example the subsistence perspective as theorised by C.V. Weirlhod, M. Mies, and V. Bennholdt-Thomsen from the so-called Bielefed School), critiques of green growth, anti-globalization movements, and a strong focus on macroeconomic policies for degrowth. Schmelzer (2014) differentiates between five thematic strands: (1) a sufficiency-oriented critique of growth (e.g. Paech, 2005, 2012); (2) a social-reformist branch close to environmental movements (e.g. Seidl and Zahrnt, 2010); (3) an anti-capitalist critique rooted in anti-globalization movements and solidarity economies (e.g. Exner et al., 2008; Rätz et al., 2011); (4) a feminist approach carrying on the legacy of the Bielefel School (e.g. Bennholdt-Thomsen, 2010), and (5) a conservative current represented prominently by political scientist Meinhard Miegel.

The book project "Degrowth in movement(s)" that started in the Autumn of 2015 is a good reflection of that diversity. The book gathers the opinions of 33 different movements on the topic of degrowth (only 19 of those are available in English at the time of writing).[1] "The degrowth movement is moving – moving towards other movements and entering into a dialogue and it wants to become more of a social movement. That is why we are now asking other social movements for their proposals for the degrowth movement" (Burkhart et al., 2016: introduction). In a way that reminds of *Degrowth: A Vocabulary for a New Era* (2015), the book attempts a synthesis that would strengthen the emancipatory power of these movements by bringing them together.

When asked why there is no degrowth movement in Germany, Treu (2019I) explained that there were already several strong organisations that could integrate the topic within their agendas.[2] Degrowth activists already being part of these organisations, there was no need for a

[1] 15M, activism, buen vivir, care revolution, climate justice, commons, degrowth, demonetize, environmental movement, food sovereignty, free-software movement, Peoples Global Action, Radical Ecological Democracy, Refugee Movement, Solidarity Economy, Transition Initiatives, Unconditional Basic Income, Unions, Youth Environmental Movement.

[2] For example, NGOs like Attac Germany have been developing a critique of economy since 2001 (it also had a "Beyond Growth" working group since the 2011 Berlin conference). And also research organisations, such as the *Vereinigung für*

new structure. This is also why interactions between union activists and degrowthers are much stronger in Germany than in other countries (Muraca and Schmelzer, 2017: 192).

Another specificity is that there are no specific outlets, no degrowth journals like in France, Québec, or Belgium. The entire movement runs on two blogs (degrowth.info, which became international in 2018 and Postwachstum.de). It is otherwise completely decentralised without any formal network or organisation structure. For Treu (2019I), this is a reflection of the diversity of social movements in Germany.

Décroissance in France continued

In 2005, Paul Ariès, a political scientist who would become one of the leading French degrowth scholars, published his first book on the topic: *Décroissance ou barbarie*" (Degrowth or barbarism, mt).[1] His ambition in the book is, not only "to put growth on trial," but also to elaborate a convincing alternative, to use "degrowth" as a "*mot-obus*" (missile word) to "annihilate the ideology of growth" (ibid. 75, mt). Under his pen, "moins de biens, plus de liens" (less goods, more relationships, mt) becomes the slogan of what he calls *décroissance équitable* (equitable degrowth, mt), with a specific focus on reducing inequality and promoting democracy.

What is Paul Ariès' vision of degrowth? In his book, he proposes a vision of degrowth in thirteen *chantiers* (projects): (1) destroy the ideologies of progress, (2) of consumer society, (3) and of the work-centred society; (4) promote relocalisation (5) and gratuity; (6) respect nature, (7) authenticity, (8) the body, (9) time, (10) and space; (11) guarantee autonomy, (12) re-symbolise society, (13) and build a degrowth movement. For the author, the three ways to escape the growthist society are voluntary simplicity, building collective alternatives, and the construction of a political project. Whereas Latouche was more concerned about civil society, the key space for transformation in Ariès is the polity – the two were in disagreement as to whether it was a good idea in 2006 to create a Degrowth party in France.

The year 2005 was marked by several noteworthy events. In February, the *Institute of Social and Economic Studies for a Sustainable Degrowth* arranged a new symposium in Montbrison near Saint-Etienne[2]; in June, several tens of people (including Serge Latouche, José Bové, Albert Jacquart, Jacques Testart, Majid Rahnema, Paul Ariès, Vincent Cheynet, François Schneider and three donkeys) marched from Lyon toward Magny-Cours to protest against

ökologische Ökonomie (German Society for Ecological Economics), the *Vereinigung für ökologische Wirtschaftsforschung* (German Association for Ecological Economic Research), or the *Institut für ökologische Wirtschaftsforschung* (Institute for Ecological Economy Research) who is running the Postwachstum.de web portal.

[1] One finds in the rest of Ariès' work, many texts relevant for degrowth: a critique of work (Ariès, 2002), of advertisement (Ariès, 2003, 2004), of consumption (Ariès, 2006) and commodification (Ariès, 2007b), a book on voluntary simplicity (Ariès, 2010), one describing the environmental values of the poor (Ariès, 2015), and another one on gratuity (Ariès, 2018a). An augmented version of the same book was published in 2007 as *La décroissance, un nouveau projet politique* (Degrowth, a new political project, mt) before another book in 2009, *Désobéir et grandir: vers une société de décroissance* (Disobeying and Growing up: towards a society of degrowth, mt) dealing with new topics such as voluntary simplicity, civil disobedience, and rationing, and including a list of twenty propositions.

[2] The two days were organised in three topics: (1) "The obstacles to a convivial society: eco-fascism or eco-democracy"; (2) "The pathways of happy frugality: deliberation, participation, and representation"; and (3) "Deceleration or degrowth: which steps and which means?" The list of presenters was as follows: Serge Latouche, Fabrice Flipo, Yves Cohet, Geneviève Azam, Anne Querrien, Yolande Benarosh, Bernard Guibert, Jérôme Gleizes, Alain Caillé, Stéphane Lavignotte, Michel Dias, François Schneider, Bruno Clémentin, Sophie Divry, Vincent Cheyney, Paul Ariès, Francine Bavay, and Jean-Marie Harribey.

Formula One[1] – other similar marches would later happen in Loire Atlantique (May 2006), Nord Pas de Calais (July 2006), and Charente-Maritime (August 2006). In the same spirit, François Schneider created the "March for degrowth" and peddled 1500 km across France stopping in towns and villages to discuss the topic with local inhabitants.

Another event of the year 2005 was the publication of an article titled "*Objectif décroissance. Avant que la Terre ne devienne invivable*" (The degrowth objective. Before it's too late, mt) in the journal *Éléments*. What is remarkable about this text is its author, political theorist and founder of the New Right (*Nouvelle droite*) party Alain de Benoist. This is the first time the ideas of degrowth were embraced by the right side of the political spectrum.[2]

In 2007, de Benoist published a book on the topic: *Demain la décroissance ! Penser l'écologie jusqu'au bout* (Tomorrow, degrowth! Thinking about ecology all the way, mt).[3] The book is a collection of essays, only one of them being specifically about degrowth. While the leftist degrowther would find much to disagree in de Benoist's overall philosophy, one can hardly find an argument in the degrowth-related essays that one would not find in Latouche.

Nevertheless, Ariès (2006c: 3, mt) called it an "hostile takeover" on degrowth from "an extremist ideology," rebuking them as anti-democratic, anti-republican, and anti-humanist. Later in 2008, the journal *La Décroissance* would write an open letter inviting degrowthers to manifest their disagreement with the views of "Alain de Benoist, Alain Soral, the Front National, and Christian fundamentalists" that they qualified as "sectarian, neo-Malthusian, eugenist, racist, and neo-fascist" (mt).

Another founding event in the French history of *décroissance* was the "États-généraux de la décroissance" (general estates of degrowth, mt). Organised in October 2005 in Lyon (by V. Cheynet, P. Ariès, and C. Sunt, they gathered 300 people to discuss preparations for the presidential and legislative elections of 2007. One of their objective was to better structure the degrowth movement (this led to the creation of several degrowth local groups). In their brief history of the concept, the group Décroissance Ile de France (2010) points to a dispute at this meeting between those who wanted to create a national party as soon as possible, others who argued it was too early, and a third group refusing party politics altogether (e.g. Latouche[4]). Instead of creating unity, the event led to a split within the French movement into two contending organisations: the *Parti Pour La Décroissance* or PPLD (Party for Degrowth) and the *Mouvement des Objecteurs de Croissance* or MOC (Movement of Objectors to Growth).

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[1] The stance of growth objectors to such events was not new. Between 2001 and 2007, *Casseurs de pub* organised yearly protests for "the end of formula 1." In 2002, they even organised the fake trial of Michael Schumacher who was charged with crime against humanity and ended up being offered a pedal car. (Their position has not changed: in the September 2019 issue of *La décroissance*, F. Jarrige signs an article calling "to dismantle racetracks.")

[2] For some time, the website *decroissance.info* was the main platform of expression for the extreme-right approach to degrowth. Today these ideas concentrate around the journal *Limite – Revue d'Ecologie intégrale* (Limit – journal of integral ecology), which was established in 2015 as "a journal of cultural and political struggle of Christian inspiration" (Limite, 2018).

[3] The careful reader would have noticed that de Benoist's article and book titles are identical to the first book published on the topic in 2003 by Bernard et al. and to Grinevald's translation of Georgescu-Roegen's book. The announced title for de Benoist's book was actually "*Objectif décroissance*," before he was forced to change it after being contacted by its editor Parangon (Anon, 2008: 52). In the second edition of his book in 2018, he changed the title to *Décroissance ou toujours plus ? Penser l'écologie jusqu'au bout* (Degrowth or forever more? Thinking ecology all the way, mt) as to "avoid confusion with the excellent book of Nicholas Georgescu-Roegen" (de Benoist, 2018: 37, mt).

[4] To the question of "should there be a party for degrowth," Latouche (2007: part III, mt) answers: "No. Institutionalising the programme of degrowth prematurely in the form of a political party would expose us to the pitfall of politics, one where politicians abandon social realities to engage in abstract political games."

The PPLD was created by comedian Bruno Clémentin, editor and graphic designer Vincent Cheynet, and cultural facilitator Yves Scaviner in October 2005. Hand drawn by Cheynet himself, the party took the snail as its symbol "for its slowness and his ability to stop the growth of its shell" (Cheynet, 2005, mt). The reference to the snail that has now become the international symbol of degrowth originally comes from one of Ivan Illich's texts:

> "L'escargot construit la délicate architecture de sa coquille en ajoutant l'une après l'autre des spires toujours plus larges, puis il cesse brusquement et commence des enroulements" cette fois décroissants. C'est qu'une seule spire encore plus large donnerait à la coquille une dimension seize fois plus grande. Au lieu de contribuer au bien-être de l'animal, elle le surchargerait. Dès lors, tout augmentation de sa productivité servirait seulement à pallier les difficultés créées par cet agrandissement de la coquille au-delà des limites fixées par sa finalité" (Illich, 1983: 292 cited in Latouche: 2007d: 3).

As for those in disagreement with the PPLD,[1] they created their own entity in 2007. The MOC for *Mouvement des Objecteurs de croissance* took the form of an open network whose ambition was restrained to organising events and sharing publications (around 200 people in total gathered around a mailing list, with two leaders, and around ten active organisers). Their original text was the "Vassivière call" (because written during a Summer meeting in the city of Vassivière) who repeated the classic pleas of degrowth: "escaping the ideology of development," "regaining control over lifestyles," "end productivism, predatory speculation, and the myth of infinite growth," "real democracy for the self-determination of peoples and groups, for equity and solidarity between humans and for cooperation and sharing," "well-being and individual as well as collective flourishing in voluntary simplicity."

In preparation for the 2007 legislative elections, the motion *En avant la décroissance !* (Let's go degrowth!) was published to invite candidates to campaign in the name of the *Parti Pour la Décroissance* (PPLD). The motion was structured in four points: deconstructing the ideology of growth, reaffirming the law as legitimate against the ultraliberal ideology, a political philosophy based on the logic of "slower, more intense, with more flavour" to oppose the prevailing "faster, more often, further," and the defence of ten policy proposals.[2]

In the end, eleven candidates would present themselves gathering between 0.24 and 2.71% of the votes (Duverger, 2011: 214). It was during this campaign that Cheynet was fired from the PPLD[3] – he would later in 2010 found an association (with Marion Desbareau) he called the POC for *Parti des Objecteurs de Croissance* (the growth objectors party, mt).[4]

In April 2010, Cheynet's POC called for a strategy to bring Paul Ariès as a candidate to the presidential election of 2012 under the themes "*Moins de biens, plus de liens*" (less goods, more relationships), "*moins mais mieux*" (less but better), and "*la première décroissance est la*

[1] For example, Christian Sunt, Michel Lepesant, Thierry Brulavoine, and Jean-Luc Pasquinet.
[2] (1) liberate the media from corporate power, (2) stopping the logic of individual houses, the progressive abandonment of (3) cars and high-speed trains, as well as (4) fossil fuels, (5) economic relocalisation, (6) the dismantlement of transnational corporations, (7) a maximum income set at three time the minimum wage, (8) the interdiction to own more than two dwellings, (9) the submission of research to democratic decision-making, and (10) the end of professional sport.
[3] As one can imagine, this scission of the PPLD did not happen without disputes. Later in 2012, the PPLD publicly stated its independence towards the journal *La Décroissance*, where Cheynet works as an editor (Reporterre, 2012).
[4] To recapitulate, there exist three organisations in France, the PPLD and MOC (together forming the Association of objectors to growth or AdOC) and the POC, which all three together consist of around 120 people (Ros, 2012: 29).

décroissance des inégalités" (the first degrowth is the one of inequality).[1] However, after only six months, Ariès decided to withdraw blaming "a lack of convergence in between the different degrowth movements" (Ariès, 2009: 5).[2]

At the start of 2008, the *Parti Pour la Décroissance* (PPLD) was reborn with a new generation of leaders[3] and, this time, without any electoral aspirations. Sceptical of power and its influence on political debates, the PPLD sided for a "non-electoralist" strategy: using elections to bring new topics into the political discussion, lobby on other political organisations, and popularise degrowth among the broader public.

Another political formation was *Europe Décroissance* (Europe Degrowth), which ran its first campaign at the European elections of June 2009. The impetus came from Paul Ariès, Vincent Cheynet (who would later leave), Remy Cardinale, and Vincent Liegey, with the support of the MOC. In their programme, *Europe Décroissance* called for "responsibility, sharing, democracy, and lucidity." In terms of proposals, their campaign poster listed eight changes (for details, see Chapter 9).[4] The call was signed by more than 1,700 people in the few weeks after its creation, before being withdrawn because of a disagreement between Vincent Cheynet and the others behind the *Europe Décroissance* initiative regarding the role played by the MOC in the campaign.

In the end, the degrowth list received in between 0.02 and 0.2% of the votes during the actual election. As reported by Duverger (2011: 218), a silver lining for the movement was the attention raised by their campaign film, depicting a snail slowly crossing the screen with the following text appearing (for full video, see Europe Décroissance, 2009):

> "Let's take time… to think. An infinite growth… in a finite world? 60% growth in 30 years! And what about well-being? 80% of resources for us. 20% for the rest? Sustainable development, green growth… Solution or alibi? Chosen degrowth… or imposed recession? Europe-Décroissance. The utopia of today will be the reality of tomorrow" (mt).

Europe Décroissance ran others campaigns for the elections of 2014 and 2019 – this time with the slogan "*la décroissance, c'est le bon sens*" (play on word meaning both "degrowth, it's common sense" and "degrowth, it's the right direction"). Their programme was self-described as "anti-capitalist, anti-productivist, and anti-consumerist, as a radical reform of our lifestyles towards convivial forms of social organisation based on simplicity, mutual aid, sharing, reduction of inequalities, and a new form of democracy (including self-management)" (Europe Décroissance, 2014a, mt).

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[1] Published in the n°69 of the journal *La décroissance* (p. 7), the call stated: "We will wage the war with our destructive words: anticapitalism, antiproductivism, anticonsumerism, degrowth but also with our constructive ones: slowing down against the cult of speed, relocalisation against globalism, caring for others and conviviality against the society of disdain, autonomy against heteronomy, cooperation against competition, the satisfaction of fundamental needs against wastage, solidarity against self-interest etc."

[2] This failed attempt reminds of Pierre Rabhi who, in 2002, had been forced to withdraw after failing to gather enough supporting signatures (80 out of the required 500). Defending the theme of sustainable degrowth, his campaign created a lively debate on the topic and attracted the attention of diverse political parties (for more, see Baykan, 2007).

[3] Rémy Cardinale, Vincent Liegey, Christophe Ondet, Stéphane Madelaine, Affilia Kadri, Christophe Degennes, and Olivier Bouly.

[4] In additional posters – taking the form of a multiple-choice questionnaire – made for the occasion, they call for sharing (instead of profits and unemployment), local life (instead of globalisation and pollution), serenity (instead of speed and competitiveness), conviviality (instead of egoism and individualism), simplicity (instead of complexity and immoderation), and moderation (rather than accumulation and waste).

The text proposed eight policy objectives, albeit different ones than in the 2009 campaign (see Chapter 9 for a more detailed analysis of the programmes). And again, no electoral aspirations, but only an opportunity to "inform, connect and meet, as well as start initiatives" among interested citizens (ibid.). Results of the elections: 1,035 votes in the lists presented in five regions, that is 0.03%, not enough to get any seat at the European Parliement. In the spirit of degrowth, the campaign costed altogether 85 euros (voters had to print their own ballot paper).

Summary table: campaigns for the French degrowth party

Legislative 2007	11 candidates unknown, 0 seats
Legislative 2012	40 candidates 5 themes, 18 policies 4,830 votes (0.02%), 0 seats
Legislative 2017	unknown number of candidates 5 goals, 20 policies 3,493 votes (0.01%), 0 seats
European 2009	18 candidates 4 goals, 8 changes 6,043 votes (0.03%), 0 seats
European 2014	5 lists in 5 regions 8 policies 4,638 votes (0.02%), 0 seats
European 2019	79 candidates 6 themes, 15 policies 10,479 votes (0.05%), 0 seats

In summary, the institutional history of degrowth in France is messy. Many organisations (PPLD, MOC, ADOC, POC, MCD, plus all the local groups and the journals) that failed to coordinate and remain entangled in personal feuds. In January 2019, representatives of all existing degrowth formations met in Paris to discuss the advancement of *décroissance* in France. Their conclusion was trenchant: degrowth as a political movement has failed (Décroissance Ile de France, 2019). Out of all the national organisations, only the MCD remains today, with a meagre pool of 19 official adherents. In a tragicomic twist of fate, it is the advocates of downscaling who have themselves been downscaled.

And what about alliances? Duverger (2011: 187-225) points to linkages with different parties. Almost nothing with the Socialist Party,[1] even though Benoit Hamon, the 2017 presidential candidate of the Socialist Party, affirmed in an interview that he stopped believing in the "cult" of economic growth and that he "broke off with productivism" (Binctin and Kempf, 2017, mt). Slightly more interactions with the *Parti de gauche* (their leader Jean-Luc Mélanchon was interviewed in *La Décroissance* in 2009, and declared in his speech at the *Assises de l'Écosocialisme* in 2012 that "degrowth is not an option, it's a necessity").

[1] The small party *Utopia* (created in 1996) embraces the idea of degrowth without using the word; the MP of the Socialist Party Christophe Caresche has been, since 2009, coordinating a working group on the topic of "Growth/degrowth"; in 2009, Paul Ariès was invited to run a seminar for the Secretary for Ecology of the Socialist Party.

Discussions with the communist parties have been blocked by virulent public attacks from a few authors (e.g. Métellus, 2003; Oxley, 2003), even though these have toned down over time. In the regional elections of 2010, the MOC and the *Nouveau Parti Anticapitaliste* (an ecosocialist party) wrote a common text. Certain anarchists embraced degrowth (e.g. Tertrais, 2006; Fédération Anarchiste, 2009).

The Green Party is the closest to embrace "degrowth." As early as 2004, the party spoke of "equitable and selective degrowth," and in 2008, of "solidary degrowth" (Cochet et al., 2008, mt). In the national election of 2007, Yves Cochet and his degrowth programme was almost elected as candidate for the green party, but lost against Dominique Voynet standing for sustainable development (the green party would stay on course with the green capitalism approach after that and until today).

On the right side of the political spectrum, degrowth is either ignored or vilified. An exception is the New Right, through the work of Alain de Benoist, who openly embrace degrowth meddled with a paganist and eugenist ideology, and proposes to do away with the right/left division in favour of a productivist/anti-productivist one.

Away from politics and back from the intellectual history of the concept. In 2006, Serge Latouche published "*Le pari de la décroissance*" (The degrowth wager, mt), a text that is still the main francophone reference on degrowth – the "bible of degrowth" for *L'Écologiste* (cited in Lievens, 2015: 236, mt).[1] While degrowth was still considered on the periphery of the notion of postdevelopment in *Surviving development* (2004, mt), this book is the first monograph dedicated to *décroissance* alone.

Instead of a definition, which the author refuses to provide, he offers the "8R" framework, eight interdependent and mutually reinforcing changes – *re-evaluate*, *reconceptualise*, *restructure*, *redistribute*, *relocalise*, *reduce*, *reuse*, and *recycle* (I will describe the 8R in details in Chapter 6). What is noteworthy is that this theory articulates both the old denotation of real decline (*reduce*, *reuse*, *recycle*, perhaps also *restructure*) and the new one of imaginary degrowth (*re-evaluate*, *reconceptualise*, *redistribute*, *relocalise*). Latouche (2011a: 123, mt) sums it up perfectly: "Degrowth is a slogan at the level of ideas and a downscaling at the level of things."[2]

The reception of the book was bitter (beyond the argument itself, Latouche's sarcastic rhetorical style might be at issue here). Robert (2007) for *Ecorev*' criticised Latouche for a lack of concrete proposals and an obsession with the vague expression "decolonisation of the imaginary." In *Alternatives Économiques*, one of the leading French magazine about economic issues (with quite a progressive leaning), Clerc (2006) assailed: "Principled claims, yes, but analyses, no. Was it worth cutting a few extra trees to print such a book?"[3]

The same year, the academic journal *Entropia: Revue d'étude théorique et politique de la décroissance* (Entropia: Journal for the theoretical and political study of degrowth, mt) was

[1] In my reading, the two others books Latouche wrote about degrowth (*Petit traité de décroissance* sereine, 2007; *Vers une société d'abondance frugale*, 2011) only reassess what is in *Le pari de la décroissance* (2006).

[2] French-speaking readers will appreciate the original sentence: "La décroissance est donc un slogan au niveau des mots et une *décrue* au niveau des choses" (Latouche, 2011a: 123, italics added), especially the use of the word "decrue," a technical term in hydrology to describe the decrease of water levels back to their normal state after a flood. More here in Latouche (2013: 23, mt): "the outflow of a flooded river that caused a flood is a good thing. And since the river of the economy has broken the banks, it is absolutely desirable for us to return."

[3] All of Latouche's following publications were vindicated in the same manner – see Ordonneau (2014) for a review of *Petit traité de la décroissance sereine* (Latouche, 2007) and Harribey (2019) for *Décroissance* (Latouche, 2019a).

created by Serge Latouche, Alain Gras, Jean-Paul Besset, and Jean-Claude Besson-Girard with the ambition to improve the theoretical coherence of degrowth. The title was an idea of Latouche and literally denotes the ability to "turn back" in the sense of being capable of self-criticism (additionally to the obvious reference to entropy). This commitment is explicit in the opening sentence of the first volume: "Any idea that refuses self-criticism is no longer an idea but a belief" (Entropia, 2006: 3, mt). The journal would publish sixteen volumes on various topics[1] involving 174 authors until its cessation in 2014.[2]

In 2006, François Schneider, Denis Bayon, and Fabrice Flipo, founded *Recherche & Décroissance* (research & degrowth) as a network dedicated to furthering discussions about degrowth. In 2010, the organisers of the Barcelona conference followed suit by creating their own *Research & Degrowth*, which they defined as an "academic association dedicated to research, training, awareness raising and events organization around degrowth" (R&D, 2018). The international network grew to include 24 members[3] with Joan Martinez-Alier and Serge Latouche assuming the responsibility of a scientific committee. During the same year, a three-part documentary directed by Jan-Claude Decourt and Claude Fages titled "*Simplicité volontaire et décroissance*" (Voluntary simplicity and degrowth, mt) was released online by the association *Utopimages*.[4]

In September 2009, participants of the *Constitutional Convention of the Association of Objectors to Growth* meeting in Beaugency (France) created "A Platform for Convergence" as a second attempt to rally all degrowthers into a single political movement. For Liegey (2019I), the programme that was written for the occasion is the most accomplished document ever produced by French degrowthers. It puts emphasis on eleven changes: relocalisation, regaining control over activities, local currencies, an Unconditional Autonomy Allowance, free public services, free access to responsible use of basic resources, the end of over-consumption, the rejection of the cult of technology, less competition, and participatory democracy. And yet, the initiative would crumble down in the following months after a disagreement regarding an alliance with the New Anticapitalist Party (NPA) in the coming regional election.

In 2010, the word "*décroissance*" entered the dictionary as "policies promoting a slowdown of the growth rate in a sustainable development perspective" (Larousse, 2010, mt). This definition was quickly spotted and criticised by objectors to growth. The website of the IEESDS (2018b) states: "degrowth enters this 2010 edition of the *Petit Larousse illustré*, but unfortunately, editors misinterpret as '[definition].' We propose to the dictionary the following definition: 'Degrowth is a policy that recommends the economic degrowth of rich countries,

[1] Degrowth and the political (n°1, 2006), Degrowth and work (n°2, 2007), Degrowth and technique (n°3, 2007), Degrowth and utopia (n°4, 2008), Too much utility? (n°5, 2008), Ethical crisis, crisis ethics? (n°6, 2009), Collapse: And after? (n°7, 2009), Territories and degrowth (n°8, 2010), Counter-powers and degrowth (n°9, 2010), At the sources of degrowth (n°10, 2011), The sacred: an anthropological constant? (n°11, 2011), Fukushima, end of the Anthropocene (n°12, 2012), Degrowth and the State (n°13, 2012), The saturation of the words (n°14, 2013), Disorientated history (n°15, 2013), and Ode to the present / obsolescence of the future (n°16, 2014).

[2] It should be noted that the quality of the contributions varies greatly. Rather than a usual peer-reviewed scientific journal, *Entropia* should be understood as a collection of essays, some more rigorous than others.

[3] Fulvia Ferri, Angelos Varvarousis, Brototi Roy, Aaron Vansintjan, Sam Bliss, Julien-François Gerber, Salvador Pueyo, Daniela Del Bene, François Schneider, Filka Sekulova, Frederica Demaria, Viviana Asara, Claudio Cattaneo, Marta Conde, Giacomo D'Alisa, Kristofer Dittmer, Fabrice Flipo, Erik Gómez-Baggethun, Giorgos Kallis, Christian Kershner, Iago Otero, Beatriz Rodríguez-Labajos, Mariana Walter, and Christos Zografos.

[4] The documentary featured Pierre Rabhi, Alain Dufranc, Sabine Rabourdin, Lydia Müller, Jean-Claude Besson-Girard, Miguel Benassayag, Françoise Gollain, Jacques Grinevald, Isabelle Soccorsi, Jo Sacco, Fabienne Brutus, Jocelyn Patinel, Françoise Matricon, and Serge Latouche.

first and foremost, degrowth aims at escaping economism (the invasion of all social and human sphere by the economy)' " (mt). A second definition appeared in the 2013 edition of *Le Petit Robert*: "Political project challenging economic growth [as being] a source of social inequalities and environmental damage."[1]

What about *décroissance* today? The main organisation is *La maison commune de la décroissance* or MCD (the shared house of degrowth, mt), which started in October 2015 and was officially launched two years later. Standing on four values (sharing, emancipation, conviviality, and sobriety), it abides to a specific definition of degrowth: "degrowth is a pathway to return under ecologically sustainable thresholds without being subjected to collapse. It is also a society choice against the frantic world of growth and in favour of a democratic and serene world" (MDC, 2017). It also introduced four new slogans: "*la décroissance, c'est le bon sens*" (degrowth, it's common sense [double meaning: it's the right direction], mt), "*moins de richesses, c'est moins de misère*" (less wealth is less misery, mt), "*on n'arrête pas le progrès, et c'est bien le problème*" (we cannot stop progress, and that's precisely the problem, mt), and "*on arrête le progrès, et c'est la solution*" (we can stop progress, and that's the solution, mt).

In the Fall of 2017, several students created the *Réseau étudiant pour la décroissance* or RUD (student network for degrowth, mt) with the objective to organise a yearly conference on the topic of degrowth so that "every study have the possibility to hear about degrowth at least once during their university studies" (Porche, 2019: 17, mt).

In less than a decade (2002-2008), *décroissance* settled into the ideological landscape of radical European activists and scholars as an alternative to sustainable development. Whereas the first phase was impulsive, chaotic, and conceptually blurry, the second can be seen as a period of organisation with the creation of a precise concept (*décroissance soutenable*), research organisations (IEESDS, Research & Degrowth), political entities (ROCADe, PPLD, MOC), journals (*La Décroissance, le journal de la joie de vivre*, *Entropia*) and radio shows,[2] along with the occurrence of an array of events.

The provocative missile word of *décroissance* blasted its way through the public debate, attracting the attention of various groups in Italy, Spain, Catalonia, Québec, and Belgium. In each different country, degrowth acted as a catalyser for change, bringing different social struggles under one banner. In the end, it is analytically difficult to build national degrowth profiles and one should rather trace the schools that have emerged following the works of specific author. Not a French degrowth, but the *décroissance* of Latouche or the one of Ariès, not an Italian degrowth, but the *decrescita* of Pallante or the one of Bonaiuti, not a German degrowth, but the *Postwachstum* of Paech or the one of Seidl and Zahrnt.

This Eurotrip (plus Québec) definitely enriched the notion, which would make it even more difficult for participant of the Paris conference in 2008 to agree on one international definition of "degrowth."

[1] For more about the history of the word *décroissance*, see Sutter (2017).
[2] The radio show *objecteurs de croissance* that ran online with 53 shows between 2006 and 2011.

From reflex to movement: imaginings of post-growth societies (2008-2018)

The decade following the Paris Conference can be considered the Golden Age of degrowth as a concept. A cycle of international conferences, global research networks, education programmes, and a public starting to open up to the idea that economic growth might not be the be-all and end-all of human existence. I structure this final part of the history of degrowth in five periods corresponding to the 2-year interstices in between the first six international conferences in Paris, Barcelona, Venice/Montreal, Leipzig, Budapest, and Malmö/Mexico City.

From Paris to Barcelona (2008-2010)

The year 2008 marked a turn in the history of degrowth without which the present dissertation would not exist: degrowth became a proper academic study object.[1] The first International Conference on Degrowth for Ecological Sustainability and Social Equity (ICDESS)[2] took place in Paris (hosted by Telecom SudParis) on April 18-19 with around 130 researchers from several disciplines (albeit with a majority of economists).

This event led to the Paris Declaration,[3] which for the first time attempted to give a comprehensive definition of the term (for more details see the proceedings of the conference compiled by Schneider and Flipo, 2008). The declaration defined degrowth as "a voluntary transition towards a just, participatory, and ecologically sustainable society" and called for "a paradigm shift from the general and unlimited pursuit of economic growth to a concept of 'right-sizing' the global and national economies" (Degrowth Paris, 2008). As reported by Demaria et al. (2013: 195) and Kallis et al. (2015a: 24), it was during this conference that the English term "degrowth" was officially used for the first time.[4]

In a tragicomic twist of fate, it is also the same year that the system that degrowth criticised collapsed. On September 15, 2008, the investment bank Lehman Brothers faced bankruptcy after excessive risk-taking in the trading of subprime mortgages. It was only the first of several bailouts in a crisis of such magnitude that it would come to be referred to as the Global Financial Crisis. As Jackson (2018) reflects a decade later: "The 'growth fetish' gave us both the crisis and now the motivation for talking about what might happen beyond the growth-based system." In his history of the degrowth movement, Lievens (2015: 143-48) argues that the Global Financial Crisis had a double impact: on the one hand it reinforced the primacy of economic growth in showing the turmoil created by its absence while, on the other

[1] Such a statement is controversial for people who, following Serge Latouche, argue that degrowth is not a scientific concept but only a "political slogan with theoretical implications." (Latouche, 2006: 16, mt). While I will return to this question in more details in the next chapter, the main point here is that degrowth started to be used by scholars for scientific analysis, which effectively makes it a scientific concept whether one likes it or not.

[2] The conference was organised by *Recherche & Décroissance*, an organisation founded by F. Schneider, F. Flipo, and D. Bayon. Starting with Paris, several members of each conferences' local organising committees would join a Support Group that would act at the official promoter of the International Degrowth Conferences. The current members are: F. Schneider for Paris; B. Roy, S. Avila, F. Demaria, and F. Sekulova for Barcelona; B. Thomson for Montreal; S. Cristiano, J.L. Aillon, and C. Marchetti for Venice; N. Treu, C. Burkhart, G. Babtista, and B. Muraca for Leipzig; L. Zivcic, M. Domazet, and V. Liegey for Budapest.

[3] The declaration was the result of a workshop held at the conference with the participation of Michael Bell, Mauro Bonaiuti, Brien Czech, Dalma Domeneghini, Andreas Exner, Randy Ghent, Hali Healy (facilitator), Daniel O'Neill, Leida Rijnhout, Avrizio Ruzzene, François Schneider, Stefanie Schabhuttl, and David Woodward (Degrowth Paris, 2008).

[4] In one of the first academic articles on degrowth, Fournier (2008: 528) notes that she only found three English-language articles on degrowth (Baykan, 2007; Fotopoulos, 2007; and Latouche, 2007) beside a few articles by Serge Latouche (2004b, 2006b) published in the English version of *Le Monde Diplomatique*.

hand, it gave a perfect empirical case to criticise the unsustainability of the system. For Lievens, the crisis gave momentum to degrowthers but deterred non-believers.

In the turmoil of the post-GFC Great Recession, another crisis was looming in several European countries such as Greece, Ireland, Portugal, Spain, and Cyprus. At the end of 2009, the Greek debt levels were revealed to be abnormally higher that what European authorities had anticipated. The fear spread among investors, leading to a rise of interest rates that made it difficult for Greece and other indebted countries to finance their debt. In order to secure bail-out loans from the European Commission, the European Central Bank, and the International Monetary Fund, several of these countries introduced austerity measures that trigged a vicious circle of recession and plunged them into chaos.

In the aftermath of the crisis, Peter Victor (*Managing without growth*, 2008 – second edition 2019), Tim Jackson (*Prosperity without growth*, 2009 – second edition 2017), and Juliet Schor (*Plenitude*, 2010) published three books that would popularise critiques of economic growth among English-speaking readers.[1] In 2009, one of Latouche's short books (*Petit traité de décroissance sereine*, 2007) was for the first time published in English as *Farewell to growth* (2009), which remains to this day the main reference of non-French speakers when talking about the French *décroissance*.

In July 2008, the Wikipedia page for "degrowth" was created by a French anonymous contributor under the pseudonym "Spanish squirrel." The term was defined as "a political and economic ideology in favour of a regular decrease of the economic production," adding that, for supporters, "the decrease of the economic production is the only solution to the environment issues that humanity is facing" (Wiki Degrowth, 2008).

From Barcelona to Venice and Montreal (2010-2012)

The second international conference was hosted by the Autonomous University of Barcelona in March 2010. It recorded an attendance of 500 scholars and activists from more than 40 countries, according to its website. A special feature of this event was the participatory process (Group-Assembly Process or GAP) that led to the *Barcelona Declaration*, which for the first time proposed a list of proposals for degrowth (see Degrowth Barcelona, 2010a and 2010b for details):

> "currencies and financial institutions, social security and working hours, population and resource consumption, restrictions to advertising, moratoria on infrastructure and resource sanctuaries, and many others. A wealth of new proposals evolved, including: facilitation of local currencies; gradual elimination of fiat money and reforms of interest; promotion of small scale, self-managed not-for-profit companies; defence and expansion of local commons and establishment of new jurisdictions for global commons; establishment of integrated policies of reduced working hours (work-sharing) and introduction of a basic income; institutionalization of an income ceiling based on maximum-minimum ratios; discouragement of overconsumption of non-durable goods and under-use of durables by regulation, taxation or bottom-up approaches; abandonment of large-scale infrastructure

[1] Although these were not the first books published on the topic (e.g. Douthwaite's *The Growth Illusion* in 1992, Fotopoulos' *Towards an Inclusive Democracy* in 1998, Odum and Odum's *A Prosperous Way Down* in 2001, Hamilton's *Growth Fetish* and de Geus's *The End of Over-Consumption* in 2003) the success they met in popularity (especially Jackson's *Prosperity without growth*, 2009) was unprecedented since *The Limits to Growth* (1972).

> such as nuclear plants, dams, incinerators, high-speed transportation; conversion of car-based infrastructure to walking, biking and open common spaces; taxation of excessive advertising and its prohibition from public spaces; support for environmental justice movements of the South that struggle against resource extraction; introduction of global extractive moratoria in areas with high biodiversity and cultural value, and compensation for leaving resources in the ground; denouncement of top-down population control measures and support of women's reproductive rights, conscious procreation and the right to free migration while welcoming a decrease in world birth rates; and de-commercialization of politics and enhancement of direct participation in decision-making" (Barcelona Degrowth, 2010b).

The year 2011 gave birth to two revolutionary movements (Ingignados and Occupy Wall Street) that, although not explicitly claiming themselves in favour of degrowth, expressed a similar criticism of the system.

In response to the austerity-driven economic reforms of the Spanish government and after the online publication of the "Real Democracy Now" manifesto, a protest was organised on May 15 in more than 50 Spanish cities, most famously in The Puerta del Sol square in Madrid (Asara and Muraca, 2015: 169). Inspired by Stéphane Hessel (2010) *Indignez-vous!* (Time for Outrage!), the activists called themselves "outraged" – hence the name "Indignados Movement."

Later in the year on September 17, 2011 the Occupy Wall Street movement began with the occupation of the Zuccotti Park in Manhattan. The initial call was impulsed by Kalle Lasn and Micah White, editors of *Adbusters*, who in mid-July published an online call stating: "On September 17th, we want to see 20,000 people flood into lower Manhattan, set up tents, kitchens, peaceful barricades and occupy Wall Street for a few months" (Komlik, 2014). With a slogan that is now well-known ("we are the 99%"), the movement grew to unexpected proportions and inspired various similar initiatives in other countries.

From Venice and Montreal to Leipzig (2012-2014)

The first degrowth conference outside of Europe took place in May 2012 in Québec. The *Montreal International Conference on Degrowth in the Americas* was organised by five universities (Université de Montréal, McGill, Concordia, UQAM, and HEC Montréal) and gathered 340 participants for a week-long event aiming "to articulate the needs and aspirations of the Americas for a post-growth, more equitable and better world" (Degrowth Montreal, 2011).[1] Signed by Yves-Marie Abraham and ten other scholars, the call for submissions posed the following questions: "What does degrowth mean for our Hemisphere with its rich geographical, cultural, social and economic diversity? How can degrowth models apply to different contexts from the Artic to Tierra del Fuego? What does degrowth mean for the indigenous peoples of the Americas and their aspirations for their lands and peoples?"

The same year in September, another international conference was organised in Venice. Its theme was "The Great Transition: Degrowth as a passage of civilization," with a threefold

[1] The conference was organised by Y.M. Abraham, J.A. Ames, P.G. Brown, C. Forgues, N. Kosoy, O. Navarro-Flores, H. Phillipe, F. Schneider, S. Scott, P. Shrivastava, and B. Thomson. Keynote speakers included Holly Dressel, Joshua Farley, John Fullerton, Alain Gras, John Grim, Andrea Levy, Joan Martinez-Alier, Serge Mongeau, Elizabeth Peredo Beltran, Williams Rees, François Schneider, Juliet Schor, David Suzuki, Mary Evelyin Tucker, and Peter Victor.

focus on commons, work, and democracy. Involving around 80 speakers[1] and including 60 participatory workshops, it attracted 800 participants according to La decrescita (2012).[2]

After the French approach to décroissance finding its way to an English readership with the publication of *Farewell to growth* (2009), it was time for the German's *Postwachstum* to gain international popularity with the publication of Niko Paech's *Liberation from Excess: The road to a post-growth economy* (2012).

While degrowth was slowing brewing, its nemesis sustainable development grew a fresh face. The third Earth Summit occurring in Rio de Janeiro in June 2012 chose the "green economy" as a leading theme, which marked the crowning achievement of green growth. Prior to that event, the United Nations Environment Programme (UNEP) published a 600-page report entitled "Towards a green economy: Pathways for sustainable development and eradication of poverty." The report defines the green economy "as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities" (UNEP, 2011: 16). Whereas arguing against the old, brown growth was already a challenge, this green, clean, and full of sheen newcomer would prove harder to defeat.

But the degrowth troops were nonetheless organising. In the Summer of 2013 was organised the first International Degrowth Picnic Day, an initiative born out of the Barcelona conference that has occurred in more than 70 cities around the world during the four years of its existence (Anon., 2018b). A similar event would be created in Germany later in 2018, the "Good life for all" day. In 2019, occurring on June 1st, the two events were merged into a "Global Degrowth Day." The organisers (the international working group "Activists and Practitioners" of the degrowth.info platform) describe it as an opportunity "to create local actions and events that show alternative ways and ideas leading beyond a society that relies on economic growth" (Anon., 2019).

The Intergovernmental Panel on Climate Change (IPCC) released its Fifth Assessment Report in 2013. Its conclusions: it is "extremely likely that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in greenhouse gas concentrations and other anthropogenic forcings together" (IPCC, 2013: 17). Coming from such a respected working group, the findings of the report lent considerable weight to the environmental arguments of degrowthers.

This, however, did not bring closer environmental NGOs, which in general remained recalcitrant to the theme. For example, and at the time of writing (Fall 2018), the websites of Friends of the Earth, Greenpeace,[3] and WWF show no results when searching for the words "degrowth" or "de-growth." The one of the Global Footprint Network shows three results, two of them using "de-growth" as a synonym for catastrophic decrease and the third making reference to criticisms of the Sustainable Development Goals.

[1] The keynote speakers were Serge Latouche, Helena N. Hodge, Verinika Bennholdt-Thomsen, Rob Hopkins, Gianni Tamino, Silke Helfrich, Gustavo Soto, Alberto Lucarelli, Arturo Escobar, François Schneider, Marcelo Barros, Gilbert Rist, Maurizio Pallante, Mario Agostinelli, Antonella Picchio, Luca Mercalli, Erik Assadourian, Ugo Bardi, Marco Deriu, Salvör Nordal, Alfredo Pena-Vega, Marco Revelli, Alicia Puleo, Majid Rahnema, Antonia di Luca, Mauro Bonaiuti, Giorgos Kallis, Mary Mellor, and Joan Martinez-Alier.

[2] The conference was hosted by the Associazione per la Decrescita, Spiazzi, IUAV, Universitá di Udine, Cittá di Venezia, Arci, Kuminda, and Sesterzo.

[3] Even though, in a 2011 interview, Rex Weyler (co-founder of Greenpeace international in 1979) says that degrowth "may be the most important public dialogue of this century."

From Leipzig to Budapest (2014-2016)

Of all the degrowth conferences, the one organised on September 2014 in Leipzig is remembered for its colossal scale.[1] Almost a 100 speakers for nearly 3000 participants, more than 500 events in the forms of keynotes, panels, World Cafés, poster presentations, book presentations, concerts, and many mores including a slow motion flash mob in a shopping mall. This diversity prompted Bliss (2014) to describe the gathering as "Burning Man meets hip intellectual forum," while for Muraca and Schmelzer (2017: 174), it was "the provisional climax of the international degrowth debate."

The main theme of the conference was "building bridges" and it aimed to advance the degrowth movement by "facilitat[ing] the exchange between scientists, civil society, pioneer projects of a social and ecological economy and artists" (Anon., 2013). The conference had three thematic threads: organising society (emancipatory politics, participation, institutions); building a social and ecological economy ((re)productivity, commons, society-nature relations); and living conviviality (*buen vivir*, open knowledge, convivial technology).

The year 2014 brought two other noteworthy events. First, the Autonomous University of Barcelona (ICTA) organised the first international Summer school on degrowth, which gathered 90 masters and PhD students for three weeks (such event would be repeated every Summer after that with each time a different topic[2]). One year later, a 4-day "Degrowth Summer school" was added to the yearly Climate Camp in the Rhineland region (Germany); it was organised by a group of 40 people in collaboration with the German think-tank *Konzeptwerk neue Ökonomie* (Laboratory for new economic ideas).

This was part of a broader education outreach effort by degrowthers. In 2014, the GROWL pan-European network was launched, as a group of "academics, practitioners at the grass-roots level, researchers and political activists" aiming at "a plural and diverse skill and knowledge exchange to support a major transition towards degrowth" (GROWL, 2018).[3]

In 2015 was published what remains to this date the most popular book on the topic: *Degrowth: A Vocabulary for a New Era*.[4] It was edited by Giacomo D'Alisa, Frederico Demaria, and Giorgos Kallis, three academics of the Autonomous University of Barcelona belonging to the Research & Degrowth network. Following the spirit of *The Development Dictionary: A Guide to Knowledge as Power* (2010), the book was structured as a collection of entries organised in four parts (lines of thought, the core, the action, and alliances). The book was originally published in English and has since then been translated in ten languages.

The same year, recently elected Pope Francis released his encyclical letter *Laudato Si'*, which, some argued, shared certain similarities with the degrowth position (for more detailed analysis of degrowth elements in the text, see Latouche, 2019d: 73-105; Puggioni, 2017; Kallis, 2017; Penava, 2016; Krüger, 2015; Nicaise, 2015). The resemblance culminates in the two

[1] The conference was hosted by Konzeptwerk Neue Ökonomie, Förderverein Wachstumswende e.V., DFG-Research Group "Postwachstumsgesellschafter" at the University of Jena, and the University of Leipzig.

[2] *Adapting to the times of crisis* in 2014, *Environmental justice* in 2015, *Alternatives and proposals* for 2016, *Transformations that sustain life* in 2017, *Making sense by democracy, non-violence, and conviviality* in 2018, and *Proposing pathways outside the growth, closure and depressive narratives* in 2019.

[3] These took the form of 3-10 day intensive courses with one module to introduce key degrowth thinkers, another one on methodologies on how to become a trainer, and a last one specific to each degrowth course.

[4] For Paech (2016: 11, mt), it is the book that is "on every growth-critical nightstand."

following paragraphs, n°193 where he speaks of "decreased growth" (*décroissance* in the French version) and n°114 where he calls for a "slow down" (*ralentir la marche* in French).

> "In any event, if in some cases sustainable development were to involve new forms of growth, in other cases, given the insatiable and irresponsible growth produced over many decades, we need also to think of containing growth by setting some reasonable limits and even re-tracing our steps before it is too late. We know how unsustainable is the behaviour of those who constantly consume and destroy, while others are not yet able to live in a way worthy of their human dignity. That is why the time has come to accept *decreased growth* in some parts of the world, in order to provide resources for other places to experience healthy growth" (Francis, 2015: n°193, p.141, italics added);
>
> "Nobody is suggesting a return to the Stone Age, but we do need to *slow down* and look at reality in a different way, to appropriate the positive and sustainable progress which has been made, but also to recover the values and the great goals swept away by our unrestrained delusions of grandeur" (Francis, 2015: n°114, p.86, italics added).

It was the same year in September that the journal *Limite* was born, a Christian quarterly journal on degrowth calling people to gather as to build a "*Laudato Si'* compatible world" (Limite, 2018: 17, mt). As of the end of 2018, the journal published twelve issues[1] and led to the formation of six working groups in different regions of France.

The year 2015 is also remembered for marking the beginning of the ongoing European migrant crisis. In between 2015 and 2016, a rising number of people – mostly Syrian, Afghans, and Iraqis – attempted to reach Europe after being displaced by violent conflicts. When it comes to degrowth, this made the question of population and immigration resurface. Herman Daly (2015) published an article titled "Mass migration and border policy" in the *real-word* economics *review* where he argued that a steady-state economy could not sustain constant inflows of migrants. The main rebuttal came from Giorgos Kallis, who dedicated his keynote presentation at the Budapest conference (September 2016) to rebut Daly's arguments – see Kallis (2017: 159) for a summary of his points.

Last but not least, the final noteworthy event of the year 2015 was the creation of the Sustainable Development Goals (SDGs). This international agenda was adopted by United Nations member states on September 25 as a follow-up to the Millennium Development Goals (2000-2015) and in order to "end poverty, protect the planet and ensure prosperity for all as part of a new sustainable development agenda" (UN, 2018). This gave a fresh face to the notion of sustainable development, even though the addition of a specific goal on economic growth (SDG n°8: "promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all")[2] comforted objectors of degrowth in their critique of

[1] "Décroissez et multipliez-vous !" on population (n°1, September 2015), "Tous dans le même bateau" on the geopolitics of degrowth (n°2, January 2016), "Arrêtez Tout ! Il y a plein d'alternatives" on alternative lifestyles (n°3, May 2016) "C'est quoi ce travail ?" on work (n°4, October 2016), "Tous à terre !" on agriculture (n°5, January 2017), "Le Grand Remplacement (le vrai)" on technology (n°6, April 2017), "Le temps de vivre" on time (n°7, June 2017), "Osez le féminisme intégral !" on feminism (n°8, October 2017), "À quoi tenons-nous ?" on values (n°9, January 2018), "En Arche !" on animal welfare (n°10, May 2018), Bio Éthique Tac boum ! on bioethics (n°11, July 2018), and "La bourse ou la vie !" on the economy (n°12, October 2018).

[2] Most problematic was the first target of SDG n°8: "Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries," as well as the fourth target, which "[…] endeavour to decouple economic growth from environmental degradation […]."

sustainable development (see Robra and Heikkurien, 2019 for a degrowth analysis of the goals).[1]

From Budapest to Malmö, Mexico, and Brussels (2016-2018)

The fifth international conference took place at the end of Summer 2016 in Budapest, Hungary.[2] It was structured around three thematic days (challenges, strategies, and alliances), each including four key topics.[3] Gathering 600 participants, it incorporated 40 special sessions for just under 200 individual research presentations as well as an open festival that the organisers called "the Budapest Degrowth Week" which attracted an additional 1000 people (Degrowth Budapest, 2016: 8). Unlike Paris and Barcelona, this conference did not produce a unified final declaration, a conscious choice justified by its organisers (for reasons underlying that choice, see Budapest Degrowth, 2016: 14-15).

In 2016, the *All-Party Parliamentary Group on Limits to Growth* was created in the United Kingdom with the goal "to create the space for cross-party dialogue on specific economic risks related to environmental and social limits; to assess the evidence of such limits, identify the risks and build support for appropriate responses; and to contribute to the international debate on redefining prosperity and measures of growth" (as written in the *about* section of their website). Supported by the Centre for the Understanding of Sustainable Prosperity (CUSP) at the University of Surrey, the group organised three events. In April 2016, "Limits to Growth or Opportunities for Prosperity?" at the House of Commons with Anders Wijkman as keynote speaker. In November of the same year, a debate on "The end of growth?" again at the House of Commons between Jørgen Randers, Kate Raworth, Federico Demaria, and Graeme Maxton. And in November 2017, another debate on "Social Limits to Growth: Implications for Sustainable Prosperity" to mark the 40th Anniversary of Fred Hirsch's *The Social Limits to Growth* (1976) with Robert Skidelsky, Donald Hirsch, and Diane Coyle.

Two French texts that were published during 2016 and 2017 deserve to be mentioned for that they are the first histories of thought dedicated to the idea of *décroissance*. Directed by Serge Latouche, the first is actually a collection of short books titled "*Les précurseurs de la décroissance*" (The precursors of degrowth, mt) that presents the ideas of 21 thinkers.[4] Published a year later under the direction of Cédric Biagini, David Murray, and Pierre Thiesset, "*Aux origines de la décroissance*" provides a short 5-page presentation of 50 authors.[5] What is

[1] One could also point to other problematic targets: focus on productivity (SDG n°8.2), industrial agriculture (SDG n°2.b, 2.c) and industry in general (SDG n°9.2), an efficiency-only approach to energy (SDG n°7.3) with no commitment to reduce fossil fuels (SDG n°7.2), an approach to inequality that sees redistribution as faster income growth for the poor (SDG n°10.1), impotent measures against financialisation (SDG n°10.5), vague objectives concerning consumption with no commitment to downshifting (SDG n°12), and a focus on adaptation rather than mitigation of climate change (SDG n°13).

[2] The conference was hosted by Cargonomia (Hungary), Institute for Political Ecology (Croatia), Focus (Slovenia), Greendependent Institute (Hungary), Ena banda (Slovenia) and Corvinus University (Hungary).

[3] "The un-common sense, historical socialism and post-socialism in Eastern Europe, Exit from growth ≠ exit from capitalism?" for the first day, "environmentally sound economics, this is the 22nd century, global village, and the wrong way round" for the second day, and "new forms of democracy and new institutions, degrowth and other social movements, building on solidarity, and empowering communities" for the third day. See Budapest Degrowth (2016) for more details.

[4] G. Orwell, A. Chayanov, W. Benjamin, S. Weil, E. Gravelle and H. Zisly, J. Baudrillard, S. Moscovici, L. Mumford, T. Roszak, M. Bookchin, Diogenes, P. Kropotkin, Lao-Tzu, C. Castoriadis, A. Gorz, L. Tolstoï, J. Giono, L. del Vasto, C. Fourier, J. Ellul, and Epicurus.

[5] E. Abbey, G. Anders, H. Arendt, G. Bernanos, M. Bookchin, A. Camus, E. Carpenter, C. Castoriadis, B. Charbonneau, J. Chesneaux, G. Keith Chesterton, B. Commoner, A.K. Coomaraswamy, G. Debord, L. del Vasto, J. Ellul, P. Fournier, M. Freitag, M.K. Gandhi, P. Geddes, N. Georgescu-Roegen, J. Giono, P. Goodman, A. Gorz, A. Grothendieck, M. Henry, A. Huxley, I. Illich, R. Jaulin, S. Jevons, L. Kohr, G. Landauer, C. Lasch, N. Ludd, D. MacDonald, H. Marcuse, W. Morris, L.

remarkable about these two publications is that it signifies that degrowth was now recognised as a proper idea and not only a slogan painted on banners during protests as many of its detractors believe. For Sutter (2017: 71), these tradition-building activities may suggest that the movement was in "a period of enhanced reflexivity."

On January 25th, 2018, a group of French scholars[1] published a call ("Tomorrow it will be too late… What to do in the short and long term?") following the publication of the "World Scientists' Warning to Humanity: A Second Notice" in November 2017, a text signed by more than 15,000 scientists calling for addressing environmental breakdown. Signed by more than 6,000 people, what was referred to as a "*Appel à la Décroissance*" (degrowth call) called for the end of "*Grands Projets Inutiles imposés*" (large, imposed, useless projects – mt), work time reduction, the generalisation of the commons and gratuity, reduction of income and wealth inequality, and a broadening of democracy in the direction of autonomy (Ariès et al., 2018).

From Malmö to Manchester (2018-2020)

The year 2018 was busy. Themed "Dialogues in turbulent times," the seventh international conference was organised in Malmö, Sweden (21-25 August) by the newly formed *Institutet för nerväxtstudier* (Institute for degrowth studies), "an organisation consisting of scholars, students and activists, which aims to promote and advance degrowth debates in the Nordic countries and internationally" (Degrowth Malmö, 2018). The event gathered 800 participants around 150 academic, activist, and artistic activities.

While European degrowthers were getting active in Sweden, another event was taking place on the other side of the Atlantic. On September 3-7th 2018, Mexico City hosted the First North-South Conference on Degrowth under the theme "Decolonizing the social imaginary." Walking the talk, the conference was organised based on eight degrowth principles (coherence, plurality, gender, culture, sustainability, participation, justice, and conviviality) with commitments including, for example, having at least one third of the plenary speakers being from the global South, one sixth of the conference being devoted to art, along with an encouraged tecnofast. It gathered 380 participants from 38 different countries[2] who discussed various topics[3] along three themes (survival, cultures, and wealth). Unlike Paris or Barcelona, and just like Budapest, the conference did not lead to a unified statement, which the organisers would have considered "irrelevant" amongst such a "great thematic diversity, plurality, interculturality, [and] multidisciplinarity" (Degrowth Mexico, 2018: 18).[4]

Mumford, G. Orwell, F. Partant, P.P. Pasolini, J. C. Powys, M. Rahnema, J. Ruskin, E.F. Schumacher, J. Semprun, R. Tagore, H.D. Thoreau, L. Tolstoï, and S. Weil.

[1] Paul Ariès, Vincent Bruyère, Thierry Brugvin, Vincent Liegey, Stéphane Madelaine, Jean-Luc Pasquinet, Anne-Isabelle Veillot, Christophe Ondet, Michel Simonin, and Christian Sunt.

[2] More precisely, 216 presentations in 44 parallel sessions and six plenary sessions with 184 speakers from 38 countries (Degrowth Mexico, 2018: 7-8).

[3] The most important, as named by the organisers, were "degrowth in the North and Descrecimiento in the South, decolonization of the social imaginary, connection between local action and global action, league and connections with brother or related movements, convivial science and technology, individual, groups, communities or institutions that make the change, and Global Action Now (Degrowth Mexico, 2018: 10).

[4] "Research and action related to ways to impose limits to unlimited growth now runs through very diverse debates, experimentations and actions on so many fronts and movements in the world that any unified declaration is irrelevant. Due to its great thematic diversity, plurality, interculturality, multidisciplinarity and other factors, this conference avoided the formulation of a convergence of this type" (Degrowth Mexico, 2018: 18).

Only a couple of weeks after Malmö (18-19 September), the public was invited at the European Parliament for a conference on post-growth. The event was divided into 16 thematic sessions[1] and moderated by 10 Members of the European Parliament representing five different political groups out of the existing six (the extreme-right did not participate).[2] It gathered around 500 participants and concluded with an invitation to come back for another conference in the Parliament in the Spring of 2020.

On September 16th, 2018, an open-letter signed by 238 academics titled "Europe, It's Time to End the Growth Dependency" was published in more than 20 online medias, translated in 20 languages (for full list, see Schiro, 2018). The open-letter stated: "it's possible to improve quality of life, restore the living world, reduce inequality, and provide meaningful jobs – all without the need for economic growth, provided we enact policies to overcome our current growth dependence." The letter referred to six broad changes (resource caps, progressive taxation, work time reduction, carbon tax, basic income and maximum income, and new technologies) and called on the European Union and its members state and institutions to:

(1) "constitute a special commission on post-growth futures in the EU parliament,"
(2) "incorporate alternative indicators into the macroeconomic framework of the EU and its member state,"
(3) "turn the stability and growth pact into a stability and well-being pact," and
(4) establish a ministry for economic transition in each member state."

Several months after its publication, the letter was signed by almost 100,000 people (for more about the dissemination of the open-letter, see Orzanna, 2018). But not everybody agreed with the text. The letter was criticised on a number of grounds: based on questionable statements such as the fact that all economic growth destroys nature[3] and ignoring the social consequences of its proposals (Mestrum, 2018) – these are some of the classic critiques of degrowth, which I will explore in detail in Chapter 7.

In September 2018 opened the first Masters programme dedicated to the study of degrowth: the "Master in Political Ecology with a Specialization in Degrowth and Environmental Justice" at the Institute of Environmental Science and Technology (ICTA) of the Autonomous University of Barcelona. On its website, its organisers set the rationale behind the programme: "We aspire to train the next generation of environmental justice activists, engaged civil servants, and entrepreneurs of the new cooperative economy – those who will put in action the best ideas for creating a society that is fair, enjoyable and ecologically sustainable." Divided in six modules,[4] it attracted 20 students during its first year.

In October 2018, the IPCC released a special report (SR15) on the impact of a 1.5°C global warming. The novel element was the inclusion of one mitigation scenario involving

[1] Economic models, energy, collective bargaining, money, full-cost pricing, basic income, the single market, financial regulation, technology, GDP, businesses, work, trade, resource caps, tax evasion, and the Stability and Growth Pact.
[2] The Greens (Philippe Lamberts, Florent Marcellesi, Molly Scott Cato), S&D (Guillaume Balas, Kathleen van Brempt, Elena Ethal Schlein), Alde (Gerben-Jan Gerbrandy), GUE/NGL (Marisa Matias, Helmut Scholz), and epp (Alojz Peterle).
[3] "The open letter contains many statements that can be questioned, since it is obvious that not all economic growth destroys nature. Care work, translations, insurances or gardening are but a few examples of economic activities that lead to growth without being destructive" (Mestrum, 2018).
[4] (1) Theoretical and Conceptual Foundations of Degrowth, (2) Environmental Justice: Origins, Theory, Issues and Movements, (3) Political Ecology and Degrowth Economics, (4) Commons and Feminism, (5) Methodological Applications for Action-Research, and (6) Professional skills in Environmental Justice and Degrowth.

"lower energy demand" and a "downsized energy system" (IPCC, 2018: 16). During a lecture about SR15 at the Central European University in November, and answering a question from audience member Vincent Liegey, Diana Ürge-Vorsatz, the Vice-Chair of the IPCC Working Group 3, revealed that degrowth was on the agenda of the next IPCC report.

> "I sneaked into the next report [AR6, 2022] degrowth, so it was me who pushed that into the 6th assessment report. […] in the end it's not as such in the outline, because many governments didn't like the word, but implicitely it is there, and we have a fantastic team who is going to write that chapter and they are definitely going to address the issue of degrowth and the whole issue of consumption" (Ürge-Vorsatz, 2018: 58min).

The same month saw the birth of the Extinction Rebellion (XR) movement, originally in the United Kingdom when 1,500 people assembled in Parliament Square in London to announce a Declaration of Rebellion against the UK government. On its website, Extinction Rebellion describes itself as "an international movement that uses non-violent civil disobedience in an attempt to halt mass extinction and minimise the risk of social collapse." Chanting "we are the ones we've been waiting for," XR activists engaged in diverse actions involving roads blockades and sit-ins, now in more than a dozen countries.

I found no trace of "degrowth" on the movement's main website, even though they state that "our currency systems of governance are compromised by a focus on profits and economic growth." Reflecting on the relation between the two movements, Rezvani and Zantvoort (2019) argue that degrowth could add strength and coherence to XR, helping it to better identify the root cause of the environment crises it points to and sharpen its demands.

In December 2018, the announcement of a rise of the price of petrol sparked a nation-wide movement of contestation against the fiscal policy of the government of Emmanuel Macron, which protestors complained was privileging the rich. Occupying roundabouts wearing the yellow safety vest that is compulsory by law for drivers to have in their car, the movement came to be referred to as the *Gilets Jaunes* (Yellow Vests).

Reacting to the protest, the government announced a *Grand Débat National* (Great National Debate), an unprecedented process of public deliberation with all citizens invited to make suggestions for public policies under four themes ("ecological transition," "fiscality," "democracy and citizenship," and "organisation of the state and public services"). Among the 154,082 online propositions concerning the ecological transition, 541 had "*décroissance*" in their title. In relative terms, this made degrowth proposals rather small – only 0.35% of the entries on the ecological theme. But what was surprising is that the term "décroissance" had been more frequently used in titles than other popular terms like "sustainable development," "green economy," or "green growth" (I will conduct a detailed analysis of these proposals in Chapter 9).[1]

Degrowth today

Before closing this brief history, I want to make a few observations about the development of degrowth as an academic field. In the last decade, degrowth became a legitimate field of studies

[1] This confirms the findings of a recent online survey. Out of a representative sample of 1,000 French people interrogated September 2019, 54% proved in favour of degrowth, against only 45% for green growth (Odoxa, 2019).

and it is not uncommon for scholars today to have degrowth as their main research interest. Several special issues in academic journals have been dedicated to degrowth over the years.

"Growth, Recession or Degrowth for Sustainability and Equity?"
(2010, *J. of Clean Production*),
"Politics, Democracy and Degrowth"
(2012, *Futures*),
"The economics of degrowth"
(2012, *Ecological Economics*),
"Degrowth: The Economic Alternative for the Anthropocene"
(2012, *Sustainability*),
"Degrowth Symposium"
(2012, *Capitalism Nature Socialism*)
"Degrowth: from theory to practice"
(2013, *J. of Cleaner Production*),
"Degrowth, Culture and Power"
(2017, *J. of Politial Ecology*),
"Degrowth and Environmental Justice"
(2018, *Ecological Economics*),
"Degrowth and Technology"
(2018, *J. of Cleaner Production*),
"Tourism and Degrowth"
(2019, *J. of Sustainable Tourism*),
"Geographies of degrowth"
(2019, *Environment and Planning E: Nature and Space*),
"Theoretical and political journeys between EJ and degrowth"
(2019, *Ecological Economics*),
"Blue Degrowth and the Politics of the Sea: Rethinking the Blue Economy"
(2020, *Sustainability and Science*),
"Sustainable Welfare beyond Growth"
(2020, *Sustainability*).

At the time of writing, there has been over 400 peer-reviewed articles with the keyword degrowth (Demaria et al., 2019: 435). I have also found 25 masters and 15 PhD theses on the topic that have been published either in English or French since 2008.[1]

[1] Zippo (2008, M) on economic degrowth, Carvalho (2009, M) on *décroissance* and voluntary simplicity, Roquebert (2010, M) on degrowth and work, Alexander (2011, PhD) on property beyond growth, Duverger (2011, M) and Tremblay-Racette (2014, M) on the history of the concept in France and Québec, Philippe (2011, M) on complementary currencies, O'Neill (2012, PhD) on measuring the steady state economy, Zavrsnik (2012, M) on degrowth in French green politics, Semal (2012, PhD) comparing French degrowth to the British Transition Towns, Christensen (2013, M) on degrowth and humanist ecology, Tirard-Collet (2013, M) as a general treatment of degrowth, Dittmer (2014, PhD) on money, Berthier (2014, PhD) on *décroissance* and political ecology, Schepper-Valiquette (2014, M) on Serge Latouche, St-Amant (2014, M) on the theoretical foundations of *décroissance*, Asara (2015, PhD) on democracy without growth, Bock (2015, M) on degrowth and feminism, Correia Palminhas (2015, M) on the degrowth of consumption, Dula (2015, M) on modelling degrowth transitions, Costa (2015, M) on the case-study of a Swedish eco-village, Lachapelle (2015, M) on the case-study of an activist space in Montréal, Krall (2015, M) on basic income, Lievens (2015, PhD) on *décroissance* as a social movement, Vandevender (2016, M) on the bibliometrics of the degrowth field, Briens (2016, PhD), Lange (2016, PhD), Lola Navia (2016, M) on *décroissance* in Québec, Mège (2016, PhD) on the history of degrowth activism, Pailloux (2016, PhD) on the geography of degrowth in France and Québec, Gran (2017, PhD), and Padalkina (2012, M) on the macroeconomics of degrowth, Brossman (2017, M) on the living practices of degrowthers, Hoffmann (2017, M) on postwork, Hebert (2017, PhD) on degrowth in fantasy novels, Velicu (2018, M) on degrowth and the SDGs, Goor (2018, M) on *décroissance* in Belgian politics, Ruhlmann (2018, M) on *décroissance* in Québec, Gagné (2018, M) on alternative economies, Fournier (2018, M) on the philosophy of degrowth, Kopp (2018, PhD) on degrowth and Protestantism, Horrie (2018, PhD) on Georges Bataille and Nicholas Georgescu-Roegen.

One can find a handful of courses and Summer schools on the topic. The course of Agnès Sinaï on *les politiques de décroissance* at SciencesPo Paris since 2010, Yves-Marie Abraham's *La décroissance soutenable: théorie et pratiques* at HEC Montréal since 2013, and more recently, Samuel Alexander's *Consumerism and the Growth Economy* at The University of Melbourne. But also, the yearly Summer school at the University of Barcelona and the one occurring during the Climate Camp in Germany; a PhD course on "Degrowth in Europe: Foundations in theory and pathways to practice" at the University of Copenhagen (May 2020); the Degrowth Fest music festival in Texas (June 2019) and a global degrowth day morning tea at the Brisbane Tool Library (June 2019); among a multitude of other events, for example, "Growth, Degrowth and Climate Justice" in London (February 2019), "Degrowth: An unrealistic utopia to achieving the SDGs?" in Dublin (November 2019), "Growth or Degrowth: rethinking the role of our economy in creating social welfare" in Luxembourg (December 2019),

Degrowth has also made its way in unexpected places, from the Stedelijk museum in Amsterdam (Siegal, 2017), the 2017 Verbier Art Summit which titled "Size Matters! (De)Growth of the 21st Century" (see Ruf and Slyce, 2017), or the Oslo Architecture Triennale "Enough: The Architecture of Degrowth" (Smith, 2019; Minkjan, 2019) – for French museums embracing degrowth, see Hugounenq (2020).

It was discussed as in a workshop on "For a prosperous degrowth" at the 2009 Summer School of the neoliberal, business-focused organisation *Medef* (The Movement of the Enterprises of France, who is openly anti-degrowth, see Medef, 2020); framed as a debate during the Davos-like 25th International Economic Forum of the Americas (June 2019); alluded to by humourist Wiesel (2019) at the Lausanne *Forum de l'Innovation pour les PME*; and presented at the Social Enterprise World Forum in Addis Abada, Ethiopia (October 2019, see Chakori, 2019). In preparation for the 2020 World Economic Forum in Davos, the Deutsche Bank published a report announcing the "question of our age": "Will humans sacrifice economic growth and even human development to halt environmental damage?" (Reid cited in Kennedy, 2020). The scientific article by Büchs and Koch (2019) *Challenges for the degrowth transition: The debate about well-being* won Elsevier's Atlas Award (see Elsevier, 2019).

Degrowth has been used to interpret novels such as Fagan's *The Sunlight Pilgrims* and Burnside's *Harvergey* (Introna, 2019), Le Guin's *The Dispossessed* (Kallis and March, 2015), and Tolkien's *The Loards of the Rings*, Le Guin's *The Left Hand of Darkness*, Pullman's *His Dark Materials*, Scott Card's *Enchantment*, and Rowling's *Harry Potter* (Hebert, 2017). It is the topic of a handful of documentaries[1] and short online videos.[2] Most surprisingly, degrowth is the topic of a short video targetting first and second year highschoolers (*La décroissance, qu'est-ce que c'est ?*) on the newly created National Education online library Lumni. It is also

[1] *Volem rien foutre al païs* (2006), Simplicité *volontaire et Décroissance*, Volume 1 and 2 (2007), *C'est par où la décroissance ?* (2008), *Life After Growth. Economics for Everyone* (2009), *10 entretiens filmés pour mieux comprendre la Décroissance* (2011), *Sacrée Croissance!* (2014), *L'urgence de ralentir* (2014), *Minimalism: A Documentary About the Important Things* (2015), *A Simpler Way: Crisis as Opportunity* (2016), and *Decrecimiento: del mito de la abundancia a la simplicidad voluntaria* (2017), *Prêts pour la décroissance ?* (2020).

[2] Degrowth – Moderation vs. consumerism (2019), Managing without growth (2019), En transition douce vers la décroissance (2019), Growth or life? (2018), Degrowth and technology (2018), Sortir de la crise écologique par la décroissance? (2018), Our addiction to economic growth is killing us (2017), La décroissance, le yoga de l'économie (2017), La décroissance, qu'est-ce que c'est ? (2016), Why growth and the environment can't co-exist (2015), La décroissance ou les limites du développement durable (2015), Décroissance : réalité ou utopie ? (2014), and La décroissance : une solution à la crise ? (2014).

a specific lesson (*la décroissance verte*, green degrowth) in the learning French programme of the francophone channel TV5 Monde.

The term and/or some of its underlying ideas have infiltrated the discourse of a number of influential characters. Pope Francis's *Laudato Si* (2015); Vaclav Smil's (2019: 497) rejection of the "workship of eternal growth"[1]; climate scientist Johan Rockström abandonment of green growth; Laurent (2019b) pleading for "an exit from growth"; the latest IPBES report (2019)[2]; Kuper (2019) openly calling for degrowth in the *Financial Times*[3] and Farquharson leaning towards it in *The Times*; Katherine Trebeck (2016) from Oxfam using the term; Hickel (2019f) winning over the Doha Debate on capitalism with the statement "growth is killing us. Stop growth" and with an explicit plea for "moving toward a post-growth economy" (ibid. 42min45); Barrau's explicit embrace of "*décroissance*" in *Le plus grand défi de l'histoire de l'humanité* (2019); J.M. Aphatie calling "to organise degrowth" while discussing the June 2019 French heatwave on the radio Europe 1; and Greta Thunberg (2019) denouncing "fairy tales of eternal economic growth" in one of her speeches.

As for politics, the French former Ecology Ministre Delphine Batho pleaded for a "voluntary degrowth" during a parliamentary commission on 19 November 2019.[4] Appearing on television in September 2019, the French Minister of education Jean-Michel Blanquer had to answer a question from the audience as to whether or not the idea of degrowth was present in high school manuals of economic and social sciences – he answered yes, even though research by Stanghellini (2019) showed that he was mistaken. In 2017, it was used by a deputy of the Catalan Parliement. Philippe Fasquel is running for mayor in Clermont-Ferrand in the 2020 elections on the theme of *décroissance* (see Thérond, 2020). In a recent speech at the National Assembly, French Prime minister Édouard Phillipe felt the need to clarify that he was not "a partisan of degrowth."[5] Outside of France, The Green Party in the UK added Universal Basic Income to its policy programme, with an explicit degrowth reasoning.[6]

In the decade after the Global Financial Crisis, the French "*décroissance*" morphed into the international "degrowth." With a conference organised every two years, this period was marked by an organised effort in education, outreach, and research, resulting in a proliferation of academic and popular texts on the topic. This decade is also a history of an idea that became action. From Extinction Rebellion, the Yellow Vests, and environmental activists blocking coal mines in Eastern Germany, to the European Parliament, the British House of Commons, and

[1] In an interview for *The Guardian*, Smil says that "in some places we have to foster what economists call de-growth. In other places, we have to foster growth" (cited in Watts, 2019).
[2] "Achieving a sustainable economy involves making fundamental reforms to economic and financial systems […] Alternative models and measures of economic welfare (such as […] *degrowth* models) are increasingly considered as possible approaches" (IPBES, 2019: 31, italics added).
[3] "If green growth doesn't exist, the only way to prevent climate catastrophe is 'degrowth' now, not in 2050: stop most flying, meat-eating and clothes-buying until we have green alternatives, ban privately owned cars and abandon sprawling suburds" (Kuper, 2019). The title of the periodical makes this occurrence even more symbolic for that degrowth can be read as the end of *financial times*.
[4] [After arguing that decoupling "does not exist."] "We overshoot planetary boundaries; we consume three planets each year. One must urgently organise a return to reality, so coming back to a neutral ecological footprint, respect planetary boundaries, and therefore organising a voluntary degrowth" (@delphinebatho, 2019, mt).
[5] "I am not a partisan of degrowth. I believe in science and I want it to be more present in our public debate. […] I love the industry and I am not ashamed of it" (Philippe, 2019a, mt).
[6] Here is how they phrase the objective EC201: "To this end, Universal Basic Income will allow the current dependence on economic growth to cease, and allow zero or negative growth to be feasible without individual hardship should this be necessary on the grounds of sustainability."

the French National Assembly, the word "degrowth" was spoken in many new places. Yet, with more and more people on board, disagreements emerged and the concept burst into different directions. The fact that degrowth currently lives in both civil society, the academia, and government explains the absence of a consensual definition. Understanding how these various dimensions of degrowth interact is the purpose of the next section.

The three denotations of degrowth

There are not many consensuses in the degrowth scholarship but this is definitely one: degrowth defies consensual definition. The disagreement is not that much about the essence of what degrowth is, which is more or less stable, but rather about finding one definition that would encompass all the different *social representations*[1] of the word.

Social representations are "networks of ideas, metaphors and images" (Moscovici, 2000: 153) that frame the perception of a specific aspect of reality. Seeing degrowth as, not one, but several closely intertwined social representations means acknowledging that what degrowth actually is varies according to different actors and the use that they make of it – not degrowth in the singular but degrowths in the plural.[2]

This is hardly surprising considering its history and the diversity of actors who came to embrace it.[3] This ambiguity should not be considered solely as a failure of analytical efforts but rather as a constitutive quality inherent to degrowth as a social movement. Fundamentally, degrowth *is* this complex bundle of social representations. The blurs on the contours of what

[1] Building on Durkheim's (1898) "collective representation," "social representation" is a concept developed by social psychologist Serge Moscovici (1925-2014) to describe: "systems of values, ideas and practices with a two-fold function; first, to establish an order which will enable individuals to orientate themselves in their material and social world and to master it; secondly, to enable communication to take place amongst members of a community by providing them with a code for social exchange and a code for naming and classifying unambiguously the various aspects of their world and their individual and group history" (Moscovici, 1973: xiii).

[2] An evidence of this plurality is the abundance of descriptors of degrowth: e.g., a *narrative* (Sekulova et al., 2013: 5); a *scientific project* (Schneider et al., 2010: 518); an *interpretative frame* (Demaria et al., 2013: 191); an *umbrella term* (Chertkovskaya and Paulsson, 2016; Barca, 2017a: 3); a *political project* (Kallis, 2011: 874); a social *movement* (Natale et al., 2016: 47; Paech, 2016: 11, mt; Pineault, 2016: 1); a *philosophy* (Pueyo, 2014: 3468); a *keyword* (Baykan 2007: 513); a *theory* (Andreoni and Galmarini, 2014: 78; Kallis, 2017:19; de Benoist, 2018: 72; Hickel, 2019b); a *metaphor* (Ramos-Martin, 2016: 2); an *idea* (Ariès, 2005: 78, mt); a *paradigm* (Hausknost, 2016: 457; Kallis et al., 2009: 15; Brugvin, 2018: 73, mt); *an hypothesis* (Kallis, 2018: 112); a *perspective* (Martinez-Alier, 2019: xiv; Burkhart et al., 2016: 2); a *model* (Vandeventer, 2016: 68); a slogan, a banner, and a rallying cry (Abraham, 2011); an emerging political-economic *movement* (Puggioni, 2017: 30); a *political current* (Ariès, 2005: 13, mt); a political mobilizer (Akbulut, 2019: 513); a *slogan* (Ariès, 2005; Latouche, 2007: 20; Bonaiuti, 2012a; Asara et al., 2015; Latouche, 2018: 278); a *criticism, proposal, hypothesis, provocation, conversation, project, lens, movement, set of practices, invitation* (Bliss, 2018); a societal/civilizational *project* (Latouche, 2019b); a *utopia* (Kallis, 2018: 117); a *banner* (Latouche, 2006: 17, mt); a *concept* (Schneider et al., 2010: 513; Duverger, 2011; 137: Kallis, 2017: 20); a *research programme* (Boonstra and Joose, 2013: 172); an activist-led *science* (Martinez-Alier et al., 2011); a multidisciplinary *academic paradigm* (Weiss and Cattaneo, 2017); an *interpretative framework* (Puggioni, 2017: 16); a *principle* (Schulz and Bailey, 2014: 281); a *network of ideas* (Kallis, 2017: 173); a *mind-set* and a *proposition* (Sekulova et al., 2017: 164); an *imaginary* (March, 2016: 2); a *territory of debates and practices* (Lavignotte 2010: 14, mt); an *ideology* (Ariès, 2009: 160, mt; Goor, 2018, mt); or an *agenda* and a *critique* (Gabriel and Bond, 2019).

[3] This diversity is reflected in sociological analysis about degrowthers. Surveying 814 out of the 3000 participants of the 2014 Leipzig degrowth conference, Eversberg and Schmelzer, (2016) – see also Eversberg (2016) – identify five currents with distinctive attitudes and practices: sufficiency-orientated critique of civilization (22%), immanent reformism (19%), voluntarist-pacifist idealism (23%), modernist-rationalist left (13%), and libertarian practical left (22%). Likewise, Rist et al. (cited in Perrot, 2009) have distinguished between seven types of degrowthers: degrowther by obligation, pragmatic degrowther, degrowther in practice, utopian degrowthers, associative degrowthers, anarchist degrowthers, and political degrowthers. Even though these studies come with a number of flaws, it at least shows that the degrowth movement is heterogeneous.

degrowth is ensure a certain plasticity over time and space, which is key for the inclusiveness and direct democracy that the movement defends.[1]

This being said, people do venture in proposing definitions. Since its inception, attempts have been manifold (at least 58 definitions on my count). In this part, I want to propose a typology to understand these definitions, and use this opportunity to clarify the contours of degrowth as an idea. At this point, my goal is not prescriptive but descriptive, meaning I will report on how people have defined degrowth without commenting on how I personally think it should be defined (this will be the objective of Chapter 6 and Chapter 7).

The main finding is that the term "degrowth" has evolved in time by successively adding three dimensions to its meaning: a degrowth *of* (decline), a degrowth *from* (emancipation), and a degrowth *to* (destination). (In the definition below, I highlight the different meanings as follows: *type-1: degrowth-as-decline* in italics, <u>type-2: degrowth-as-emancipation</u> underlined, and **type-3: degrowth-as-destination** in bold.)

Type-1: The environmentalist definition (degrowth as decline)

This is the oldest and most basic understanding of the term: degrowth as less of something, that is as a synonym for reduction. We have seen that this denotation comes from Georgescu-Roegen's (1971) use of the term "decline" in the sense of a decrease in material and energy use. Informed by what Flipo (2007) identified as the ecology and bioeconomy sources, I call it the environmentalist definition of degrowth. Here degrowth is a logical conclusion from reality, namely the fact that an infinite economic growth on a finite planet is impossible.[2]

"Material degrowth is easy to grasp: it simply means decreasing the quantity of matter and energy transformed each day by the metabolism of human society" (Paulson, 2017: 428). The goal is "to slim the economy in physical terms" (Spangenberg, 2014: 66), a "practical necessity" (Coudray, 2010: 10, mt) that is "needed to prevent overloading of source and sinks capacities" (Schneider et al., 2010: 512).

Often cited in the degrowth literature, *A Prosperous Way Down* (Odum and Odum, 2001) gives a perfect example of such a denotation: degrowth ("descent" in their wording) as only one phase of a never-ending pulsing cycle (e.g. the adaptive cycle of Holling).[3] This is also the approach of Alexander and Gleeson (2018) when they speak of "energy descent" or "powerdown," and Alexander (2015) writing about "prosperous descent."

A type-1 definition of degrowth puts the emphasis on that which should be reduced: e.g. production, material and energy consumption, economic activities, throughput, or anything else linked to environmental pressure. The early history of the term abounds with definitions that

[1] "This confusion is a social fact, not a consequence of our attempts to analyse and theorise it. Confusion and complexity are an important part of social movements and social life. […] Coherence and organizations are products of analytical attempts to make sense of movements rather than qualities inherent to them" (Haiven and Khasnabish, 2014: 238).

[2] Dias (2006: 59, mt) calls it "the equation of degrowth": "it is mathematically impossible to maintain a process of infinite economic growth on a finite planet where resources are infinitely renewable." Also Wallenborn (2008: 227): "Degrowth takes as motto the quotation attributed to Boulding: 'Anyone who believes exponential growth can go on forever in a finite world is either a madman or an economist.' "

[3] "After the period of coming down, a time of Earth restoration may follow. Before another cycle of growth, consumption, and highly developed civilization can start, there has to be a restoration of the slowly renewable resources… […] understanding that *more growth periods are to follow*s" (Odum and Odum, 2001: 285-86, italics added).

favour this quantitative aspect.[1] For example, consider the four definitions offered at the creation of the French (2004), Italian (2006), Spanish (2008), and English (2008) Wikipedia pages for the term "degrowth."

(1) "For advocates of this theory, the planet cannot support the current level of consumption and so it is necessary for inhabitants of rich countries to accept *a decrease of their living standards when it comes to the consumption of material and energy*" (Wikipedia Décroissance, 2004, mt);
(2) "Descrescita describes an economic system based on different principles that the ones governing growth-based systems. The main hypothesis is that *natural resources are limited and so that one cannot imagine a system dedicated to an infinite growth.* **The amelioration of living conditions** must therefore be achieved*, not by increasing consumption,* but with other means" (Wikipedia Decrescita, 2006);
(3) "Degrowth is a political, economic and social concept, standing in contrast to the current political consensus, according to which economic growth is beneficial. Degrowth advocates propose *a decrease in consumption and production*, based particularly on voluntary simplicity, respecting the climate, the ecosystem and human beings" (Wikipedia Decrecimiento, 2008);
(4) "The De-growth is a political and economical ideology in favour of *a regular decrease of the economical production.* For these supporters, *the decrease of the economic production is the only solution to the environmental issues that humanity is facing*" (Wikipedia Degrowth, 2008).

Dimensions being rather cumulative than conflictive, all contemporary definitions include this type-1 understanding. Yet, some of them put more emphasis on it than others. Below is a selection of definitions where this is the case. While this environmentalist dimension accurately represents the objection to growth of the 1970s, authors who today define degrowth solely in its quantitative denotation do so in ignorance of what degrowth has become. This is the case of Millstone (2017) who defines the term in the glossary of her book *Frugal Values* as "the planned, deliberate process by which we can transition from an economy in ecological overshoot to one that operates within its host planetary environment." Same biophysical reductionism for Robra and Heikkurinen (2019: 1, 2), Garcia and Martinez-Iglesias (2017: 77), and Büchs (2019).[2] In an interview, Kallis (2017) came to reject one of his own earlier definition of degrowth (n°5 below) on the ground that it focused too much on the biophysical aspect.[3]

[1] By "quantitative aspect," I do not mean to imply that the environmentalism of the 1970s was merely centred on quantities. In fact, Georgescu-Roegen's (1971) main argument was not as much about the *quantity* of energy and material consumed, but rather its *quality* in entropic terms.
[2] "An economy is degrowing when its matter/energy throughput reduces" or "the fundamental aim of the degrowth movement is to reduce economic activity in order to reach a safe operating space or a level of economic activity that can be considered to be ecologically sustainable" (Robra and Heikkurinen, 2019: 1/2); "degrowth is the strictly physical component of the way down that must result from a state of overshoot. Hence, degrowth is not a moral, political or aesthetic option for individuals to choose based on their ideological preferences; it is simply part of what happens when a system overshoots its limits" (Garcia and Martinez-Iglesias, 2017: 77); "degrowth refers to that phase of shrinking to a steady state – one in which biophysical throughput would remain at a sustainable level so that resources can be renewed and waste products effectively absorbed" (Büchs, 2019).
[3] Talking about the definition from Schneider et al. (2010) – "degrowth is an equitable downscaling of production and consumption that will reduce societies' throughput of energy and raw materials" –, Kallis (2017) says: "this is an awful definition […] don't cite it. […] what this definition says is that we should downscale our production and consumption for ecological reasons. Yes, it's too reductionist a definition, and it comes from a time back in 2008 when we very much focused on ecological economics debate."

(5) "an **equitable** *downscaling of production and consumption that will reduce societies' throughput of energy and raw materials*" (Schneider et al., 2010);
(6) "*to reduce production of goods and services* as to preserve the environment" (Géoconfluence, 2009, mt);
(7) "the **intentional** *limiting and downscaling of the economy to make it consistent with biophysical boundaries*" (Kallis, 2011);
(8) "a **socially sustainable** and **equitable** *reduction (and eventually stabilization) of society's throughput*" (Kallis, 2010: 874);
(9) "a **purposeful**, **equitable** *slowing of the rate at which we transform nature into stuff*" (Bliss, 2016);
(10) "*a transitory phase of economic contraction in wealthy countries whose ecological footprints currently far exceed sustainable scales*" (Büchs and Koch, 2017: 49);
(11) "*A progressive reduction of material and energy consumption, in the countries and for the populations that consume more of their fair ecological footprint*, *especially for superfluous material possessions*, **and at the benefit of an increase in human relations. This decrease of consumption is deliberate**." (Ridoux, 2006: 91-92, italics added, mt);
(12) "*a trajectory where the "throughput" (energy, materials and waste flows) of an economy decreases* **while welfare, or well-being, improves**" (Kallis, 2018: 9, italics added);
(13) "**a socially equitable and democratic process** *of downscaling the economy and bringing it within ecological limits*" (Cattaneo et al., 2012: 515, italics added);
(14) "**an equitable and democratic transition** to *a smaller economy with less production and consumption*" (Kallis et al., 2009: 14, italics added);
(15) "the objective of degrowth is to *scale down aggregate resource use, energy demand and emissions*, focusing on rich, high-consuming nations, wand to do this while **improving people's well-being**" (Hickel, 2019a);
(16) "a **planned** *reduction of total energy and material use to bring the economy in line with planetary boundaries*, while **improving people's lives** by distributing income and resources more fairly" (Hickel, 2019e);
(17) "a *downscaling of rich countries' economies, and the global economy*, that would also *downscale emissions* and exploitation" (Temper and Bliss, 2019);
(18) "a **voluntary**, **democratically negotiated**, **equitable** *downscaling of societies' physical throughput until it reaches a sustainable steady-state*" (Fonseca, 2019);
(19) "process of **planned** *economic contraction*, with the aim of moving toward a **socially desirable**, *ecologically sustainable, steady state economy*" (Alexander, 2015: 91);
(20) "**managed equitable** *downscaling of the material size of the global economy before reaching a 'steady-state' at safe ecological levels*" (Herbert, 2019).

This dimension is quantitative for that it points to something that should decrease, always in connection to ecological sustainability: "consumption of material and energy," "ecological footprint," "material size," "throughput," "economic production," "the rate at which we transform nature into stuff," or "the economy."

And yet, it is not only that. Nothing is ever only quantitative in the degrowth discourse. Even the notion of "decline" from Georgescu-Roegen came with strong, implicit ethical considerations: current generations must consume less resources so that future generations may have enough to live decently. In most definitions, the decrease comes with an explicit qualifier (e.g. planned, voluntary, managed, equitable, purposeful, intentional, sustainable, deliberate, or democratic), which I take as evidence that degrowth is more than just "less."

Type-2: The revolutionary definition (degrowth as emancipation)

A second category of definitions includes, not only that which should be reduced in reality, but also a necessary change in the social imaginary, often phrased as an emancipation from specific institutions or ideologies (one could also speak of an *escape* or an *abandonment*). This is the denotation that was pioneered by Serge Latouche, first in 2002 then more clearly in *La Pari de la décroissance* (2006). It corresponds to what Lievens (2015) calls "*néodécroissance*" and could be associated to the postdevelopment source in Flipo's (2007) framework.

This dimension emerged out of necessity. It started from the realisation that a decline of anything is hardly possible in a society that defines progress as increase. So when Latouche (2010: 519) writes: "*degrowth* is only possible in a *society of degrowth*," it means that a decline (type-1) is only possible in a society emancipated from the ideology of growth (type-2).[1]

The two aspects are often articulated as a radical change leading to a decline (T2 → T1). Type-2 degrowth is the decolonisation of the imaginary of growth, development, progress, economy, and capitalism, to name just a few. It is a problem-based understanding of degrowth which calls for the disestablishment of economy-as-usual and the establishment of a counter-culture. "Degrowth, in this sense, is not a material process of lowering consumption […] but a sustained critique of resistance – intellectual and practical – to growth and its consequences" (Demaria et al., 2019: 439).

Essentially, it is an appeal, not to *décroître* (to degrow) but to *décroire* (to unbelieve) – not only *décroissance* but *dé-croyance* (Latouche, 2019d: 113). Along similar lines, Lepesant (2013: 39, mt) argues that degrowth must necessarily start from a "rejection" of the world as it is today before being able to elaborate a "projection" of how it should be. The earliest statement of this stance in English was Fournier (2008: 541) in an article entitled "Escaping from the economy: The politics of degrowth" where she wrote that "degrowth is not merely about consuming and producing less, it is first and foremost about providing a critique of the economy and its colonising effect, and point to escape routes." And a decade after: "degrowth is first and foremost a radical critique of the growth ideology" (D'Alisa, 2019). Again, let us remember tha this denotation comes on top of the previous one: an *emancipation* as to allow for a *decline*. Here is a selection of definitions where this second denotation is particularly striking:

(21) "a cultural, political and economic movement for societal transformation beyond capitalist growth and consumerism, aiming to achieve **global ecological sustainability and satisfy everyone's basic needs**" (Nelson, 2019: 3);

(22) "a **collective** and **deliberative** process aimed at the **equitable** *downscaling of the overall capacity to produce and consume* and of the role of markets and commercial exchanges as a central organising principle of human lives" (Sekulova et al., 2013: 1);

(23) "*decreasing social metabolism*, while escaping from the market and the state into **increasing communality and conviviality**" (Martinez-Alier, 2019: xiv);

(24) "**a project for building a society of frugal abundance** to escape the predicaments of the consumer society" (Latouche, 2011a: 7);

[1] In his critique of degrowth, Fournier (2018: 99-102) calls a paradox the fact that degrowthers argue that practices cannot change with the ideology of growth remaining dominant but that they will necessary change under the pressure of a social-ecological crisis: "degrowthers tell us at the same time that the world cannot change but that it will change anyway" (p. 102). The division between the two first dimensions of degrowth shows that this is not a paradox: if a *decline* in throughput is inevitable over the long term (because of social and biophysical limits to growth), an *emancipation* from the ideology of growth today would enable to avoid overshooting certain thresholds of social-ecological exploitation.

(25) "a policy advising the *economic degrowth of rich countries* […] aims at escaping economism […] sustainable degrowth opposes advocates of sustainable development who affirm that economic growth and environmental protection can go together" (Lavignotte, 2009: 12, mt);

(26) "practical utopian perspective [that] aims at the development of **more equitable and sustainable lifestyles** through *the planned contraction of the current mode of economic activity*, while also challenging its ideological legitimation such as productivism, economism, and developmentalism" (Muraca and Schmelzer, 2017: 189);

(27) "radical political and economic reorganization leading to *drastically reduced resource and energy throughput*" (Kallis et al., 2018: 42);

(28) "Degrowth is a political project in rupture with capitalism: [it aims at] escaping the prevailing economic logic. It is the **voluntary** transition towards an **ecologically responsible, socially just, humanly decent**, and **democratic** society. It consists in *reducing and, most importantly, modifying our consumption and our production* as to *reduce inequality* while respecting ecosystems" (Décroissance élections, 2012b, mt).

Sometimes the object of criticism is explicit: "capitalist growth," "consumerism" or the "consumer society," "market" and "commercial exchanges," "the market" and "the State," "economism," or "sustainable development." In other definitions, the emancipation is more abstract and general, with words such as "escape," "against," "challenge," "rupture," or "oppose." Of all denotations, this is the one least present in definitions, perhaps to avoid allusions to conflict, which readers might perceive as unappealing.

One of the most famous degrowth phrases perfectly capture what this dimension is about. Degrowth should enable a "decolonisation of the imaginary,"[1] in the famous words of Latouche (2003a). Without empirical evidence, I would venture in saying that "the decolonisation of the imaginary" is the most commonplace phrase in the degrowth literature. Whereas it has become ordinary to use it as a catchphrase, it is of the utmost importance to have a clear understanding of what the statement really implies.

Let us start with a few quotations. Ariès (2005) likes to describe degrowth as a "*mot obus*" – literally "shell word," but most often translated as "bombshell word" (D'Alisa et al., 2013: 215) or "missile word" (Demaria et al., 2013: 191) – aiming to "destroy the dominant ideology [of growth]." These are common statements in the literature. Degrowth "seeks to knock down the doors of the citadel of the ruling ideology" (Cheynet, 2008: 61, mt); it means "a frontal attack on the imaginary of growth" (Kallis, 2018: 160); a "little middle finger at the establishment" (Vansintjan and Bliss, 2016); it "puts marginalised questions in the limelight" (Flipo, 2017: 9, mt); it aims "to escape from a society that was absorbed by the fetishism of growth" (Latouche, 2018: 280); it is an operation of "mental hygiene" with the goal of getting rid of unwanted beliefs (Benoist, 2018: 89, mt); "a provocative slogan to challenge, and escape, the ideology of growth" (Asara et al., 2015: defining principles).

[1] According to Latouche (2018: 280, 2014: 36), the phrase "decolonisation of the imaginary" has two sources. The work of Cornelius Castoriadis, especially in *The Imaginary Institution of Society* (1975), where imaginary meanings play a crucial role in the shaping of social life. And postcolonial anthropology, more precisely Gérard Althabe's *Oppression and liberation in the imaginary* (1969) and Serge Gruzinski's *The colonization of the imaginary* (1988) where colonisation has a symbolic dimension (linguistic, cultural, or religious). Deschner and Hurst (2018) have criticised the use of the term because it is "disrespectful to those who identify as indigenous, people of colour or who are struggling to make a living in areas which are still colonised…" proposing alternative words such as "liberate," "free," "uncage," and "emancipate." Varvarousis (2019: 497) makes a valid point in defending Latouche by affirming that his use of decolonisation is made with both a real and symbolic meaning since economic growth sustains an "imperial mode of living" (Brand and Wissen, 2013) linked to real neo-colonial practices.

If sustainable development or green economy advertise a certain vision of prosperity, degrowth *subvertises* it; it hijacks the notion of growth. The word itself creates dissensus, it acts as a semantic weapon of mass disruption, as conceptual dynamite shaking the foundation of growthism and making space for discussion. To borrow a phrase from Karl Mannheim (1936: 176): degrowth is one of "these intellectual elements [that] become the explosive material for bursting the bounds of the existing order."

Decolonisation of the imaginary makes for catchy slogans and scholarly quips, but it should not be taken literally. Decolonising one's imaginary implies challenging certain facts and values that are held as true and right (Flipo, 2017: 160): money buys happiness, the market will solve environmental issues, economic growth creates employment, or more is always better. "Degrowth is the gradual, public, and participative deconstruction of 'mental infrastructure' [Welzer, 2011] – terms like 'development' and 'progress' " (Sekulova et al., 2017: 163). Ultimately, it aims at changing an emotional reaction to economic growth: from loving it unconditionally to perceiving it with dread and suspicion.

The what to unchain from is obvious: decolonisation of the imaginary means emancipating from the ideology of growth and its associated sub-ideologies (e.g. economism, utilitarianism, rationality, progress, capitalism, development, productivism, consumerism, techno-scientism).[1] Whereas one speaks of a new "subjectivity" (Gorz, 1999: 102, mt), "social imaginary signification" (Castoriadis, 1975b), or more radically to emancipate from the religion of Economy (Jappe and Latouche, 2015, mt).[2] In fact, in French *décroître* (to degrow) is phonetically close from *décroire* (to un-believe), a play of word that was used by earlier French degrowthers (e.g. Perrot, 2009) to explain that *décroissance* does not only mean to downscale but to un-believe in the religion of growth.

But who is to blame for this colonisation? For the global North, the colonisation did not come from the outside. "The colonisation of imaginary in the West is a mental invasion where we are both victims and perpetrators. It is a self-colonisation, a partly voluntary servitude" (Latouche, 2014a: 37, mt). For Latouche (2006), such indoctrination occurs through three channels: education that destroys critical skills, medias that broadcast advertisement, and the patterns of daily consumption that become habitual.

Naturally, the decolonisation of the imaginary is not a matter of consciousness alone. Any social imaginary supports specific power relations, which explains why the growth paradigm is strongly defended by the peoples who benefit from it (or by those who expect to benefit from it in the future). De-construction also means that the cessation of construction from the ones that have an interest in keeping that story alive – this is the "let us stop making capitalism" argument from Holloway (2011).

[1] This is why Latouche (2009 cited in Varvarousis, 2019: 496) uses the word "imaginary" with a diversity of qualifier: "imaginary of growth" (Latouche: 2009: 8), "consumer society's imaginary" (ibid. p. 35), "economic imaginary" (p. 35), "capitalist imaginary" (p. 91), "imaginary of development" (p. 95), "imaginary of globalization" (p. 100).

[2] "one the one hand, society, politics, and the economy can evolve only if there is a change of mentalities, whilst, on the other, mentalities cannot really change unless society as a whole undergoes change. […] The point is to construct something… providing every opportunity for the potential mutations which will lead coming generations to live, feel, and think differently. […] a new subjectivity" (Gorz, 1999: 102, mt); "a new imaginary creation […] that would put at the centre of human life other significations than the expansion of production and consumption" (Castoriadis, 1975b); "We must escape from the economy like we escaped religion as dominant imaginary in the 18th century" (Jappe and Latouche, 2015, mt).

And finally, why should one decolonise their imaginary? The demand for degrowth holds a performative dimension. Here I borrow two sentences that Kathi Weeks originally penned to describe the demand for postwork:

> "As a perspective [degrowth] functions to produce the […] knowledge and consciousness that it appears to presuppose; as a provocation, it serves also to elicit the subversive commitments, collective formations, and political hopes that it appears only to reflect" (Weeks, 2011: 131, the word "degrowth" is added);
>
> And the second sentence: "[degrowth] is not just a demand, it is a perspective. As a perspective, it is not only a matter of the content of the demand, but of what it is 'we are saying' when 'we demand [degrowth],' a matter of the critical analyses that inform and might be elicited by the demand. More specifically, the demand was conceived not only as a concrete reform, but as an opportunity to make visible, and encourage critical reflection on, the position of [degrowth] in society […] [degrowth] could function as *a force of demystification, an instrument of denaturalization, and a tool of cognitive mapping*" (Weeks, 2011: 129, the word "degrowth" is added, and so are the italics).

Degrowth is a decolonisation of the imaginary because it assumes the ideology of growth has become an alienating force in society. One should decolonise our imaginary, not to return to an unreachable, previous state of freedom, but to educate our desire towards an emancipated condition outside of the constraints of growthism.

This makes degrowth a countercultural movement in the sense of Theodore Roszak (1969), that is a subculture whose values and habits are in direct opposition to what is considered mainstream (what I would call a utopia). For D'Alisa et al. (2013: 213), degrowth is a "counter-hegemonic narrative"; for Duverger (2011: 11, mt), it is "a rebellion, a revolt." Degrowthers gather around a common enemy: growthism in all the form it takes and with all the institutions that enables it (capitalism accumulation, private property, imperialism, wage-labour, globalisation etc.). Cheynet (2008: 120, mt) goes as far as to compare degrowth to the resistance movement under the Nazi occupation of France arguing that it should limit itself to being a "counter-power." But degrowth has become more than just a counter-power. Degrowth says *no* to growth, but it also says *yes* to a post-growth utopia.

Type-3: The utopian definition (degrowth as destination)

If the type-1 denotation is a decline (degrowth *of* something), and the type-2 denotation an emancipation (degrowth *from* something), the type-3 denotation is a destination: degrowth *for* or *to* something. If type-2 was a destruction of the status quo (problem-based), type-3 is the reconstruction of a desirable society (solution-based).[1] If type-1 and type-2 was a process, type-3 is a destination. In this aspirational understanding of the term, degrowth is associated to a variety of desirable values (e.g. well-being, frugality, justice, sustainability, conviviality, freedom, democracy) that are to be achieved via a decline (T1), an emancipation (T2), or both.

The difference between *emancipation* and *destination* is a thin one. One could say that an emancipation from something implicitly involves an alternative, and so that T2 and T3 are

[1] "the degrowth narrative does not consist only of a *pars destruens* i.e. it is not only a claim to unlearning and undoing the idols and the false notion of degrowth-led westernized society. Degrowth vision also encompasses a *pars construens*, i.e it aims to promoting and acting for ecologically sound and socially equitable societies" (D'Alisa, 2019).

inseparable from each other. I agree, and in fact, in the way I have defined utopia, the negation of something always come with the affirmation of something else. And yet, differentiating between both is not totally useless since it may help to grasp the rhetorical attitudes of degrowth claims in different contexts.

Historically, this is the latest dimension to emerge – it corresponds to the democracy, justice, and meaning of life sources of degrowth in the typologies of Flipo (2007) and Demaria et al. (2013).[1] This denotation emerged out of the realisation that a term solely defined by what it opposes is unappealing to most. If degrowth-*from* was not rhetorically powerful enough to motivate degrowth-*of*, perhaps degrowth-*to* would be.

So when Latouche writes that "degrowth [type-1] is a necessity that must be turned into an opportunity" (Latouche, 2003b, mt), the opportunity is the desirable society (the utopia) that can be achieved via downscaling (type-1) and emancipation (type-2). Kallis (2018: 117) perfectly exemplifies this dimension: "Degrowth is not only a hypothesis, or trajectory. Those who use the term signify something bigger, a vision or imaginary of an alternative world." Here is a selection of definitions that put a special emphasis on the utopian aspect:

(29) "an **equitable** *downscaling of production and consumption* that **increases human well-being and enhances ecological conditions at the local and global level, in the short and long-term** [and which is] offered as a social choice, not imposed as an external imperative for environmental or other reasons" (Schneider et al., 2010: 512-13);

(30) "a **voluntary** transition towards a **just, participatory, and ecologically sustainable society**" (Research and Degrowth, 2010: 254);

(31) "degrowth is a call for a radical break from the traditional growth-based models of society, no matter if these models are "left" or "right," to invent **new ways of living together in a true democracy, respectful of the values of equality and freedom, based on sharing and cooperation**, and with *sufficiently moderate consumption so as to be sustainable*" (Abraham, 2011);

(32) "a path towards **social justice**, **well being** and **ecological sustainability**. It involves actions at both individual and collective level to *reduce pressure on humans and ecosystems*, challenging our market based imaginary and implying a **wide and deep democratization of societies**" (Demaria et al., 2011: 1);

(33) "a *downscaling of both production and consumption of goods* to create more **environmentally** and **socially sustainable communities**" (Castree et al., 2013);

(34) "a form of society and economy which aims at the **well-being of all and sustains the natural basis of life**" (Degrowth.info, consulted in 2019);

(35) "a transformative path towards **forms of economic activity and social (self-)organization centred on the welfare of all human beings and the preservation of the ecological basis of life**" (Burkhart et al., 2016: 1);

(36) "a **democratically led**, **proportional** and **redistributive** *downscaling of production and consumption* as a means to achieve **environmental sustainability, social justice and well-being**" (Schneider, 2019: 14);

(37) "a **voluntary** *reduction of the size of the economic system*: about finding a path to **justice**, **well being** and **sustainability**" (@Degrowth Twitter account, 2019);

[1] To avoid a misunderstanding: I do not claim that the authors associated with the sources of Flipo (2007) and Demaria et al. (2013) were the latest to emerge. In fact, the works of Thoreau, Gandhi, and even Castoriadis (as representants of the meaning of life, justice, and democracy sources) precedes the ones of Georgescu-Roegen (the bioeconomy source). What I mean is that the degrowth discourse as a sociological whole started to focus on these only after the emergence of the two other dimensions.

(38) "degrowth challenges the hegemony of economic growth and calls for a **democratically led**, **redistributive** *downscaling of production and consumption in industrialized countries* as a means to achieve **environmental sustainability**, **social justice**, and **well-being**" (Demaria, 2019);

(39) "a way of life where economic expansion is deprioritized, resulting in **stronger social bonds between people and within communities**, **greater economic equality** and *far less environmental degradation*" (Scheer and Moss, 2019).

Here degrowth is defined by what it is supposed to achieve: "justice," "well-being" or "welfare," "sustainability," "sharing" and "cooperation," "democracy," or "autonomy."

From a utopian perspective, degrowth "promotes societies with smaller metabolisms, *but more importantly*, society with metabolisms that are different, more egalitarian and more sustainable" (Akbulut et al., 2019: 2, italics added); it is not only a reduction of biophysical throughput, but also "a political project that seeks more democracy, equality and justice" (ibid. 4). Its goal is "to create an economy that provides enough, for everyone, forever" (Alexander and Gleeson, 2018: 196-97), "a society of sharing, frugality and conviviality" (D'Alisa et al., 2014: 25), or "a good life for all within planetary boundaries" (Foramitti et al., 2019). On their website, the organisers of the 2020 Degrowth conference in Vienna define the term as "an ecologically sustainable and socially just economy and society."

Note also that these values do not only concern the destination but also the process of getting there. A democratic, non-violent society cannot be born out of a technocratic, brutal intervention. Degrowthers hold that the means often prefigure the ends, hence the addition of qualifiers such as "voluntary," "equitable," "democratically led," or "redistributive" to whatever is to be done during the transition towards a post-growth utopia.

According to this representation, if degrowth is not an ideology, it is then a utopia in the positive sense of the term, that is the expression of a revolt with the world as it is today (dissatisfaction) that generates an alternative to it (imagination). Contrary to literary utopias depicting the details of a perfect society that does not yet exist, degrowth is seen as a "concrete utopia" (Bloch, 1954) or a "nowtopia" (Carlsson, 2008), meaning a utopia that is rooted in the present and influence the future.[1] Talking about the Zone to Defend (ZAD) of Notre-Dame-des-Landes in France, Poilly (2018) calls it a ZADD, a "Zone to Desire Degrowth." In permanent eco-villages and squats or ephemeral events like the German Climate Camp or the French *(f)Estives de la décroissance*, degrowthers directly experience the post-growth mode of living they call for, and as such educate their desire for further changes in society.

Utopianism is here rather seen as a mode of thinking and acting that can defamiliarise the familiar (i.e. decolonise the imaginary) as to provide the necessary distance from the existing state of affairs to judge what *is* happening in the light of what *could* and *should* happen.[2] "Degrowth is utopian, and that's a good thing" (Kallis, 2019a); it is "the art of organising hope" (Dinerstein, 2014). Not only is degrowth pre-figurative, but it also aspired to be "a

[1] "A degrowth utopia is therefore 'concrete' in that it is doable" (Kallis, 2018: 126). "Nowtopians do not pre-emptively set out the goal to build nowtopia, but they create it through their necessary activities. Nowtopia is not utopia – not Sir Thomas More's unachievable ideal utopia, nor the utopia that intentional communities have attempted to calculate and construct. Nowtopia is a self-emancipatory process that is happening, continuously" (Carlsson and Manning, 2010: 951).

[2] "Degrowth can therefore be thought of as a new imaginary: a new set of ideas and fantasies that will institute and effect change of the material world" (Kallis, 2018: 117).

'performative fiction' that illuminates the necessity to abandon the growth society and build a civilisation of frugal abundance" (Latouche, 2019: 6, mt).

These are the three representations of degrowth: decline (T1), emancipation (T2), and destination (T3). The definitions that are most commonly cited are the ones mixing Type-1 and Type-3, either as a decline leading to a desirable destination (T1 → T3) or as a desirable destination achieved in a condition of decline (T3 → T1). Let us look at a few examples.

(40) "an **equitable** *downscaling of throughput*, with a concomitant **securing of well-being**" (Kallis et al., 2018: 47);
(41) "a *downscaling of production and consumption in industrialized states* that **increases human well-being and enhances ecological conditions and equality on the planet**" (Proceedings of the Leipzig conference, 2014);
(42) "a multi-level **voluntary** path towards *reduction of production and consumption* aiming at **ecological sustainability, good life, liberty,** and **social justice**" (R&D website);
(43) "a *downscaling* of *production and consumption* **that increases human well-being and enhances ecological conditions and equity on the planet**" (Research & Degrowth, 2010);
(44) "*a planned contraction of economic activity* aimed at **increasing well-being and equality**" (Schmelzer, 2015: 264);
(45) "a scenario of **increasing well-being** in a context of *declining output*" (Kallis, 2017: 8);
(46) "a pathway to return under ecologically sustainable thresholds without being subjected to collapse. It is also a society choice against the frantic world of growth and in favour of a democratic and serene world" (MDC, 2017);
(47) "the pursuing of **collective** and **deliberative**, *downscaled production of (natural) resources* and *less consumption* for **convivial living**" (Metze, 2017: 1);
(48) "a movement aiming *to reduce the size of the global economy* and **improving the overall well-being**" (Robra and Heikkurinen, 2019: 1);
(49) "an economy that seeks to *downscale and/or stabilize production and consumption* for **more well-being and ecological sustainability**" (Gerber, 2015: 413);
(50) "the transition – via the **gradual** and **equitable** *downscaling of production and consumption* – to a *quantitatively smaller* and qualitatively different economy that **respects the environment, increases human well-being and aims at social equity**" (Petridis et al., 2015: 176);
(51) "a **democratic** and **just** transition to a *smaller*, **steady state economy** in **harmony with nature, family, and community**" (DegrowUS cited in Czech and Mastini, 2020).

A multidimensional definition of degrowth

Let us now review the updated version of the Wikipedia definitions I have cited at the beginning of this section (definitions n°1, 2, 3, 4) to see how the two additional dimensions were integrated into contemporary understandings of degrowth:

(52) "a current of political, economy, and social thought in favour of a **controlled**, **selective**, and **voluntary** *reduction of economic production and consumption*, guaranteeing **balance between man and nature or sustainable development** that would consider the limits of development itself as well as **equity among humans**" (Wikipedia Decrescita, 2019);
(53) "Degrowth is a current of political, economic, and social thought in favour of a **regular** and **controlled** *reduction of economic production*, with the aims of establishing **a new balanced relationship between humans and nature, but also between human beings themselves**. […] Rejects the goal of economic growth itself as well as liberalism and

productivism. […] The research is thus part of a broader movement of reflection on bioeconomy and post-development, which would imply a radical change of the system. […] The conservation of the environment, they affirm, is not possible without *reducing the economic production that would be responsible for the reduction of natural resources and the destruction of the environment that it generates*, *which currently would be above the natural regeneration capacity of the planet*. In addition, it also questions the ability of the modern life model to ensure well-being. […] The supporter of degrowth propose a *reduction of consumption* with **a rational and controlled production, allowing to respect the climate, ecosystems, and human being themselves**" (Wikipedia Decrecimiento, 2019);

(54) "Degrowth is a political, economy, and social movement based on ecological economics, anti-consumerist and anti-capitalist ideas. […] Degrowth thinkers and activists advocate for the *downscaling of production and consumption – the contraction of economies* – arguing that overconsumption lies at the root of long term environmental issues and social inequalities. Key to the concept of degrowth is that reducing consumption does not require individual martyring or a decrease in well-being. Rather, 'degrowthers' aim to **maximize happiness and well-being through non-consumptive means – sharing work, consuming less, while devoting more time to art, music, family, nature, culture and community**" (Wikipedia Degrowth, 2019).

These Wikipedia definitions serve as evidence for the claim that the concept of degrowth grew in complexity over the years. Yet, they are far from being analytically satisfactory definitions. Several scholars have attempted to capture the three meanings in one single single definition. For example, both Lievens (2015: 385, mt) and Goor (2018: 24, mt) offer sophisticated, yet overly technical for the first or ponderous for the second.

(55) "Neodegrowth describes the rhizome-like convergence of a (sometime theoretical) reflexive thought, a (sometime activist) constructive praxis, and an ongoing process of coherence seeking. These three ingredients make it a social movement. It is composed of a *dialogique* of three paradigms focusing on seeking new relations (so-called societalist, subjectivist, ecologist), et a *dialogique* of three levels of engagement-research (so-called **voluntary simplicity** as the individual level, **transition** at the collective level, and **convivialism** at the political level). It seeks to escape – through a radical transformation – the economic regime and the reality it shapes in contemporary societies" (Lievens, 2015: 385, mt);

(56) "Degrowth is an ideology that challenges the dominant paradigm of economic growth. It criticises capitalism and the productivist and consumerist economy for ignoring environmental limits. It derives from multiple sources such as bioeconomy, post-materialism, and anti-utilitarianism. It calls for **social justice and equitable, democratic, and reasonable distribution of resources in the limits of biosphere** and in between industrialised and developing countries and present and future generations. It can take several forms, such as **voluntary simplicity** at the individual level, **autonomous local actions**, and **political participation**, all aiming at **increasing well-being**" (Goor, 2018: 24, mt).

In my judgement, these definitions are clumsy, cumbersome, and unintelligible. Beyond being non-operational, Goor's definition is flawed because it emphasises environmental limits too much, reproduces the developed/developing duality, and frames the overall objective of

degrowth in terms of well-being (three points I will criticise in Chapter 7). Luckily, it is also possible to find acceptable definitions in the academic literature, for example:

> (57) "a process of political and social transformation that *reduces a society's throughput (of material and energy)* **while improving the quality of life**" (Kallis et al., 2018);
> (58) "the degrowth project challenges the hegemony of economic growth and calls for a **democratically led redistributive** *downscaling of production and consumption in industrialized countries* as a means to achieve **environmental sustainability**, **social justice**, and **well-being**" (Demaria and Latouche, 2019: 148).

As these definitions attest, the three dimensions are not mutually exclusive, and are in fact, often overlapping. Historically, the concept developed by adding new meanings in a complementary manner. The degrowth-as-decline which was called for by environmentalists in the 1970s came to be thought as feasible only through a broader countercultural movement (this was the birth of *sustainable degrowth* in the early 2000s). Just as a decline (type-1) could only be possible in a society emancipated from the ideology of growth (type-2), so overcoming the hegemonic obsession with growth was thought to only be possible with a new utopia in sight (type-3). More appealing than a counter-culture or than a strategy for ecological sustainability, degrowth eventually became a utopia of its own.

Considering the quantity of ink that has been spent disagreeing over definitions, it might seem foolish to hope settling the debate once and for all. Instead, I have proposed to understand degrowth in three different ways: as decline (type-1), as emancipation (type-2), and as destination (type-3). Articulated together, degrowth includes a utopia (*espérance*) to be reached via a decrease (*décroissance*), itself made possible by a disbelief (*décroyance*). In my judgment, any understanding of degrowth that does not include all three is incomplete, just like any understanding of feminism today that would only include a demand for equal wage or a rejection of patriarchy would be a reduction of what feminism has become. Today, these three dimensions co-exist in the literature, often creating misunderstandings. In the rest of the thesis, and especially in my exploration of controversies (Chapter 7), I will keep referring to type-1, type-2, and type-3 to clarify what use is made of the term "degrowth."

Conclusions for Chapter 5

THE story I have told started with one revolution (May 68) and ended with another half a century later (the Yellow Vests Movement). This sets the tone for that the history of degrowth is everything but a long and quiet river.

It is first of all a history of resistance. It first developed in the cracks of the system and surfaced in spasmodic bursts only when capitalism showed weakness. Its infancy was turbulent: it was embraced by some of its extreme-right enemies, vilified by its ecologist allies, and slandered by the broader public. As a missile word, one can say that degrowth achieved its goal of manufacturing controversy. Over the years, it has remained ideological itching powder for both sides of the political spectrum – a "stone in the shoe" (Farquharson, 2019). It is safe to say that until now, and in all sectors of the opinion market, "degrowth" has never been popular,

sensible, or acceptable, but always radical and unthinkable.[1] Its originality was the ability to connect different strands of radical critique into a form of multi-dimensional rejection of the status quo. Yet, this complexity is also a handicap: degrowth has often been – and still is – misunderstood.

It was only after developing several institutions to support itself (journals, political parties, associations, research networks, academic conferences, and Summer schools) that degrowth was able to not only resist but also innovate. The concept became the centrepiece of a thriving field of academic study. Becoming increasingly relevant in the doldrums of the Global Financial Crisis amid worsening climate conditions, the idea was timidly picked up by small trade unions, environmental NGOs, and even some political parties. Despite its fast expansion among European radicals, the notion itself still remains esoteric to the great majority of people, even though some of the ideas behind the word "degrowth" have gained in popularity. Out of the nine most popular English online dictionaries consulted at the time of writing, only one provides a definition of "degrowth."[2] In the grand scheme of things, the degrowth outcry led to not much but a conspiracy of silence.

Today the term is used in different manners. Degrowth is employed as a semantic weapon of mass disruption to decolonise the imaginary of growthism; it is shouted or sung as a slogan during protests and celebrations; it is treasured as a utopia for revolutionary reformers and defended as a banner for political parties; it is rigorously defined by scholars working to understand it in the abstract and carefully refined by activists struggling to apply it in the concrete. In the end, degrowth is fundamentally plural. In order to capture this diversity, I have proposed a triple interpretation of the term: degrowth as decline (type-1), degrowth as emancipation (type-2), and degrowth as utopia (type-3).

But most of the history of degrowth remains to be written. Who knows how many new dimensions will be added to the term and who will come to embrace or slander it. Whereas ignoring either its history or its current state of development would be a mistake, letting it confine degrowth to a pre-determined future would be equally dangerous. In the spirit of perpetual self-reflection and autonomy cherished by growth objectors, the future of degrowth is not to be explored but to be invented.

[1] I say the concept of degrowth and not ideas behind degrowth such as frugality, simplicity, and sharing, who, as I will argue in the next chapter, have been dominant in the history of human societies.

[2] The Cambridge Dictionary, Chambers, MacMillan, Urban Dictionary, The Free Dictionary, Dictionnary.com show no results at all. Merriam-Webster only offers a biological definition ("decrease in mass of an organism especially at the end of a prolonged period of growth"). Wiktionary gets closest with the following: "a political, economic, and social movement based on ecological economics and anticonsumerist and anticapitalist ideas."

Chapter 6

Theoretical foundations

IN the context of the present dissertation, the invention of the future of degrowth starts with a theory. These words are being written almost twenty years after the term "*décroissance soutenable*" was used for the first time and ideas have piled up in a daunting intellectual edifice. This chapter is concerned with systematising the multitude of ideas that have aggregated under the degrowth colours into a clear, precise, comprehensive, and coherent analytical framework – in short, articulating the idea of degrowth.

After reviewing five existing frameworks (Flipo's 5 sources, Latouche's 8R, Lievens' 24 postulates, Kallis' 9 principles, and Abraham's 3 principles), I present the one that is at the core of the present thesis: an understanding of degrowth as *de-economisation*, that is an escape from the economy and its way of thinking. This normative theory of degrowth is composed of three values (autonomy, sufficiency, and care) which I use to conduct a moral audit of today's economy and imagine which system of provision would best fit a degrowth society. The outcome of this process is a list of 15 principles of economic organisation.

But first, several disclaimers. Degrowth being about escaping the economy, it may seem paradoxical to speak of an *economic* theory or an *economics* of degrowth. Degrowthers especially contest the label of *economic concept* (e.g. Ariès, 2005: 77, mt; Kallis, 2018: viii; Demaria, 2019; Demaria and Latouche, 2019: 148),[1] which seems justified because the first thing that comes to mind in a growth-centred society when one thinks of the *economic concept of degrowth* is indeed its opposite, namely recession or depression, an objective hardly worth fighting for. If the theory I offer is "economic," the term must be understood in the broad sense of what concerns the organisation of provision, so rather in the sense of *economy-focused* or *about the economy*.[2] Said differently, the economy is my study object, but economics is not my

[1] "Degrowth is everything but a new economic model. […] the objective is to escape economism and therefore to place the economy in the back seat. The degrowth pathways will, first of all, be political, legal, social, cultural […]" (Ariès, 2005: 77, mt); "degrowth is not an economic theory, much less a theory of economic contraction. Degrowth transcends single disciplines" (Kallis, 2018: viii); "from the outset it is not an economic project, but a societal project that implies escaping from the economy as reality and as imperialist discourse. […] Although it integrates ecological economics, degrowth is a non-economic concept" (Demaria, 2019); "although degrowth integrates bio-economics and ecological macroeconomics, it is actualy a non-economic concept" (Demaria and Latouche, 2019: 148).

[2] Perhaps it would be more accurate to speak of political economy in the 18th and 19th understanding of the term, or even more so in the ancient Greek understanding of *oikonomos* as the rules having to do with the management of the house. What I hint

study filter. In a way, degrowth is condemned to be about the economy, at least at the start, for that its main task is to transform an economy-centred society. Yet, as I hope to show, degrowth is nevertheless an anti-economic theory for that it describes a reduction in scale of what is currently understood to be the economy.

Also, it should be noted from the onset that the term theory is used here in a different epistemological understanding than, for example, in "theory of growth." The present theory does not aim to explain a phenomenon out there in reality. Rather, it selects and articulates already existing theories and looser concepts, the overall objective being to construct a theoretical understanding of a desired condition – theoretical foundations *for* degrowth. The theory is thus more normative than descriptive; it examines various ideas of how something *ought to be* more than it claims to be able to describe how it *is*. Of course, it ends up doing a bit of both: analysing what is in order to better select what should be. The degrowth system of provision presented below can therefore be considered an "ideal type" in Weber's (1949) understanding of the term, that is a unified analytical construct that synthesises what is known about degrowth by accentuating its key features.[1]

The final disclaimer is about whether this theory should be understood as an ideology. Of all labels, *ideology* is the one that has been resisted most vehemently by growth objectors. "[D]egrowth does not aim to establish a counter-system or a counter-ideology of degrowth to replace the ideology of growth" (Cheynet, 2008: 79-80, mt); "degrowth is not an ideology on which reality should adapt itself" (Ariès, 2009: 163, mt). The term ideology, in its most common pejorative sense, is often understood as dogma, and so degrowthers are quick to argue that degrowth is not an ideology because it is made of a plurality of ideas that are sometime contradictory (Duverger, 2011: 11; Demaria et al., 2013: 196; D'Alisa et al., 2014: xxi; Kallis, 2017: 173; Kallis, 2018: 9; Liegey, 2018).[2]

This being said, I find degrowth authors inconsistent in their use of the term "ideology." If ideology is defined broadly as a set of facts and values that are considered true and just (then synonym with worldview), then degrowth is definitely one, and this regardless of its proponents liking the term or not.[3] This is clear when Kallis (2018b, italics added) says: "My aspiration is that degrowth ideas are taken up by broader social and political movements and *become common sense* for many people, possibly even people in power," when Latouche (2019a: 66, mt) aspires for "the mass conversion of people to degrowth," or when Koch (2019b: 80) imagines a time where "degrowth ideas will eventually become hegemonic."[4]

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to is a cultural re-appropriation of the economy in the likes of Banet-Weider and Castells' (2017) "economic practices beyond economics" or Gibson-Graham's (2013) "take back the economy."

[1] In Weber's (1949: 90) own words: "An ideal type if formed by the one-sided accentuation of one or more points of view and by the synthesis of a great many diffuse, discrete, more or less present and occasionally absent concrete individual phenomena, which are arranged according to those one-sidedly emphasized viewpoints into a unified analytical construct."

[2] It "gathers a plurality of streams that are sometime in unsurpassable disagreement" (Duverger, 2011: 11, mt); it is "a junction of several sources or streams of thought which cross each other without being in competition" (Demaria et al., 2013: 196); it is made of "different lines of thought, imaginaries, or courses of action" (D'Alisa et al., 2014: xxi); "degrowth is a network of ideas" (Kallis, 2017: 173), "a plural, interdisciplinary conversation with multiple strands of knowledge, cultures, experiences and perspectives" (Kallis, 2018: 9); "degrowth is a tapestry woven into a frame of multiple complementary threads, or ideas, which jointly converge into something larger than their sum. […] it cannot be narrowed down into a single proposal or indicator" (Sekulova et al., 2017: 163-64).

[3] This is also the verdict reached by Blanc-Noel (2010). In her field work among degrowth activists in the 1990s and early 2000s, she identifies a clear political ideology, which she refers to as "*décroissantisme*" (degrowthism). One can also point to Di Méo (2006: 86, mt), who, in his critique of degrowth, writes that "despite the repeated denial about degrowth not being an ideology, once must admit that it is easy to find rhetorical structures and arguments shared among all advocates."

[4] Other authors directly talk of "the ideology of degrowth" (e.g. Abraham et al., 2015: 30, mt).

My attempt at solving this inconsistency is to define degrowth as a counter-ideology (which I call a utopia) that even though perhaps more pluralist, decentralised, and flexible than the great ideologies of the 20th century (neoliberalism, capitalism, communism, or Keynesianism) remains an ideology nonetheless.

Reviewing existing theories of degrowth

Degrowth is a term employed by many but explored by few. In the previous chapter, we saw that it was not born a scientific concept but became one. Because of a long-standing scepticism towards grand narratives, there has been very few attempts to theorise what degrowth actually is about, with most authors shying away from systematic conceptualising. Latouche's (2006) eight R, Flipo's (2007) five and Demaria et al. (2013) six sources, Lievens's (2015) map, Kallis' (2018:118-23) nine principles, Abraham's (2019b) three principles, and several dictionary-like approaches (e.g. D'Alisa et al., 2015; Treu et al., 2020) are the only conceptual frameworks available to make sense of the idea of degrowth.[1] Let us now look at each of them in detail.

Flipo's sources of degrowth

In my experience, the five sources typology remains the most popular framework used to present degrowth, both in academic and popular literature as well as in teaching. The framework defines degrowth as a confluence of five currents or sources, which I present below conserving the author's own ordering (Flipo, 2017, all translations are mine).

> **1. Ecology**: "The massacre of nature" (p.21). Economic growth comes to threaten ecological sustainability and through it social cohesion.
> **2. Bioeconomy**: "The necessity of bioeconomy" (p.45). "Degrowth is not a cultural norm or a policy to implement, but a hard and unyielding fact, that we will have to face up to one day or another" (p.45).
> **3. Postdevelopment/culturalist**: An "adulterated universalism" (p.63). Growth-driven development is being imposed as a universal model for prosperity.
> **4. Democracy**: "Democracy in danger" (p.81). The pursuit of economic growth renders societal management technocratic, weakening democracy.
> **5. Spiritual**: "Life without a meaning" (p.95). The materialistic and consumerism lifestyle of the growth society fails to deliver well-being.

The sources categorise the diversity of ideas that have been used to make the degrowth argument.[2] Although it is enlightening from an history of thought perspective, it has a number of problems. For a start, it is only a typology; the fact that it does not include interactions

[1] Scholars then go on using these frameworks to structure their research. For example, March (2016: 8) briefly use Latouche's 8Rs to think about urbanism in a degrowth society; Nierling (2014 cited in Vetter, 2017: 2) uses the 8Rs to identify suitable technologies for degrowth; Cox Hall (2017) uses the 8R to compare degrowth with the Christian "Theology of Enough" (2006) of Shane Claiborne; Higgins-Desbiolles et al. (2019) uses the 8Rs to define which form of tourism would be compatible with degrowth; Alcock (2019) structures his study of the Chinese New Rural Reconstruction Movement using the six sources framework from Demaria et al. (2013); and Romano (2019: 30-32) starts his *Towards a Society of Degrowth* with the 8R.
[2] Schneider (2019: 15) summarises them in one sentence: "degrowth involves a set of values typically encompassing the search for more justice, recuperation of ecosystems, care for future generations, preference for convivial, non-utilitarian human relations, the deepening of democracy, the importance of well-being and giving full meaning to our lives."

between the different sources makes it short of a theory.[1] Even as a simple typology, the sources are problematic because they sometime overlap (e.g. ecology and bioeconomy are close, and so are the culturalist and the spiritual) and the author spends little time commenting on the matter, an omission that undermines the strength of the framework. Finally, the principles underlying each source remain quite abstract without operational implications for social organisation.

Latouche's virtuous circle of degrowth

Of all the conceptual frameworks available, Latouche's 8R remains the most theory-like for that it not only provides a taxonomy but also articulates its elements together (key reference is Latouche, 2006). Inspired by a proposition by Italian sociologist Osvaldo Pieroni[2] (2002), Latouche (2010: 521) imagines "a virtuous circle of serene, convivial, and sustainable degrowth" made of eight interdependent and mutually reinforcing changes.

1. **R**e-evaluate
2. **R**econceptualise
3. **R**estructure
4. **R**edistribute
5. **R**elocalise
6. **R**educe
7. **R**euse
8. **R**ecycle

In his texts (e.g. his latest to date, Latouche, 2019a: 51-57), the author tells the story of the 8Rs in the following way. It all starts by (1) changing the values associated with the growth economy, for example substituting cooperation to competition, altruism to self-interest, care to predation. Changing values necessarily means (2) questioning concepts that are used to interpret reality such as wealth, sobriety, abundance, and scarcity. Questioning these concepts would lead to a transformation of modes of (3) production and consumption, as well as (4) the distribution of land rights, natural resources, employment, and wealth. One of the most important of these changes is (5) relocalisation, which should be economic, cultural, as well as political. An outcome of these changes is (6) the reduction of a number of things including ecological footprint, over-consumption, waste, and working time. Reducing ecological footprint requires to (7) reuse objects instead of buying new ones and to (8) recycle instead of throwing away.

For the author, these eight changes are not an agenda but rather "a horizon of meaning in which a diversity of concrete alternatives can find themselves" (Latouche, 2019a: 51, mt). It is

[1] Even the order between the sources is chosen at random: "these sources have no obvious superiority one from another" (Flipo, 2017: 19, mt). In explaining the difference between his approach and the one of *Degrowth: A Vocabulary for a New Era*, Flipo (2017: 15, mt) writes: "this book sketches the 'degrowth' argument in a structured maner, as to show its coherence, but also its challenges, tensions, and unanswered questions." The author concedes a few page later that, even though "sources can reinforce, weaken, or criticise each other" (ibid. 200, mt), the book "will not address in details the divergences between the different currents," and that the work of articulating the sources into "a coherent perspective likely to be embraced on a broader scale" (ibid. 19) is yet to be done.

[2] Latouche (2016: 242) credits the 8Rs to both a proposal that Osvaldo Pieroni (1949-2013) made during the alternative Earth Summit of 1992 in Rio and detailed in the book *Fuoco, acqua, terra e aria : Lineamenti di una sociologia dell' ambiente* (2002).

an "outline of the fundamentals of any sustainable non-productivist society" (ibid. 94, mt). "These eight interdependent objectives constitute a revolutionary rupture; one which will trigger the shift towards an autonomous society of sustainable and convivial sobriety" (Demaria and Latouche, 2019: 150). In a field that shies away from theories, I find Latouche's attempt to capture degrowth into one simple framework particularly refreshing.

But the 8R has a number of analytical issues that weakens its theoretical strength. It biggest problem is that it is vague. Latouche shies away from finite typologies by always resorting to "etc.," avoids definite statement by using examples, and never quite defines the terms he uses, starting with the values that underpin the entire process (first "R"). At the end of the work, one is left wondering, as an example of one question among many, what exactly is "care" or what is the desirable horizon of a process of "redistribution."

This makes it both a disappointing utopia and a poor transition strategy. It mainly describes the process and not the destination. The 8R are things one must do in order to get somewhere, but what kind of place is that? Latouche never details the contours of his "autonomous society of serene, convivial, and sustainable sobriety" (Latouche, 2019a: 51, mt) or "society of frugal abundance" (Latouche, 2016). The author describes the framework (very often only in a couple of pages) without justifying his choices in a rigorous manner. Some steps are overly general (reduce and re-evaluate) and others overly specific (reuse and recycle). Is not *relocalisation* a form of *reduction*, of the distance between producers and consumers for instance? Is not *reducing* income inequality the same as *redistributing* income?

As a transition framework, it is a rhetorical heuristic, at best, but does not tell us much about concrete policies and strategies. The changes have no actors or specific institutions and no geographical or political perimeter. Pedagogical as they are, Latouche's "8R" leave us none the wiser as to how we might achieve degrowth in reality.

Then why eight steps and not more or less? The framework has apparent exhaustiveness issues. In his latest book, Latouche (2019a: 51) proposes to extend the list with resilience, resistance, radicalise, redeploy, redefine, re-size, remodel, rethink, re-enchant, again followed by an "etc.," just like he did when he first presented the framework in 2003.[1] This is not a conceptual framework, it is a conceptual buffet – which is paradoxical for a theory that is itself based on the setting of limits. In the end, the 8R is more of a slogan than a theory.

Lievens' map of the degrowth territory

In his PhD thesis, Lievens (2015) builds an elaborate theory of degrowth. He does so in several steps. First, he defines degrowth as the interactions between three paradigms corresponding to three fundamental questions: "Who am I? With whom? And where?" (ibid. 205, mt).

1. *Subjectivist* (or *spiritualist*): This deals with the meaning of life
   Relation of individuals with themselves
2. *Societalist*: This is the critique of development and its modern institutions
   Relations between individuals
3. *Ecologist*: This is a reflection on sustainability

[1] "One could extend the list of the 'r' with: re-educate, reconvert, redefine, remodel, rethink, etc., and of course relocalise, but all of these 'r' or *more or less* included in the six first" (Latouche, 2003c, italics added, mt).

Relations with humans and their environment

Lievens does not stop there and articulates the three paradigms together. He draws on Guattari's (1989) "ecosophy" with its threes ecologies of mental, social, and environmental, each embedded within each other. Next, he identifies three levels of change:

1. *Individual*: voluntary simplicity
   Transformation of the Self, finding meaning in frugality
2. *Collective*: transition
   Bottom-up construction of communal projects, concrete utopias
3. *Political*: convivialism
   Democratic politisation and political engagement

His "map of the territory of degrowth" is the integration of these two typologies into a third one, based on a synthetical analysis of three French degrowth scholars (Serge Latouche, Paul Ariès, and Pierre Rabhi). The map is structured in three blocks, each including a number of postulates that Lievens considers consensual among the three authors.[1] Ultimately, these 24 postulates describe what degrowth is about.

1. *Why*: the motivation for changing
   - Postulate 1: we are in the midst of a civilizational crisis…
   - Postulate 2: with diverse symptoms (ecological, social, cultural, economic),
   - Postulate 3: for which there exist undeniable scientific evidence
   - Postulate 4: any infinite growth on a finite planet is impossible
   - Postulate 5: solving the crisis requires radical change
   - Postulate 6: this is both necessary and desirable
   - Postulate 7: there is some value in using the term "degrowth"
2. *What*: the substance and direction of change
   - Postulate 8: degrowth is the dialogical interaction between three paradigms (societalist, ecologist, subjectivist)
   - Postulate 9: it constitutes a radical transformation of the system
   - Postulate 10: escaping the economy is key
   - Postulate 11: degrowth is not pre-determined and will differ based on context
   - Postulate 12: degrowth embraces complexity
   - Postulate 13: degrowth is both a reduction and a societal project
   - Postulate 14: the goal is individual and collective convivial autonomy
   - Postulate 15: degrowth is fundamentally humanist and therefore anthropocentric
   - Postulate 16: degrowth must be democratic
3. *How*: the way to get there
   - Postulate 17: degrowth acts at three levels – individual, collective, and political
   - Postulate 18: change should be both in representations and in practices
   - Postulate 19: change is political rather than technical
   - Postulate 20: change is systemic and concerns all functions as well as their connections
   - Postulate 21: one should stop using fossil fuels
   - Postulate 22: one should relocalise
   - Postulate 23: change mostly concerns the global North
   - Postulate 24: downscaling is selective

[1] He adds 7 conflictual postulates, which I have not included above: disagreement over (1) the relative weight between desire and necessity, (2) the source of the crisis, (3) which paradigm of the three is dominant, (4) cultural universalism and relativism, (5) whether "degrowth" could find a better name, (6) the relative importance of each of the three levels for transformation, and (7) the definition of political engagement.

Lievens' theory is remarkable for its breadth, including both the justifications for degrowth, its content, as well as the means of its realisation. But here is the catch: it relies on only three authors, all of the French, and only including texts from 2004 to 2010. While this fitted his research purpose (a sociological study of degrowth activists in Belgium), it would fall short for mine.

Besides, the postulates lack precision. Saying that "degrowth embraces complexity," that it "must be democratic," and that "one should relocalise" does not say much about what complexity, democracy, and relocalisation is. It is regrettable that the author does not differentiate between descriptive postulates (e.g. any infinite growth on a finate planet is impossible) and normative postulates (e.g. change mostly concerns the global North).

A more fundamental limitation that is common to all currents-of-thought theories (here Lievens and Flipo) is that it can only include what has been written or said by degrowthers. Degrowth is a young and small field, where issues often – even among most respected authors – still need development. Self-limiting oneself to what is already there means missing a wealth of possibly useful concepts that have not yet been attached to degrowth. In my judgment, degrowth as a scientific object is currently in dire need of new concepts that would come to strengthen its coherence – hence my decision to elaborate a principle-based (e.g. Latouche, Kallis, Abraham), and not author-based theory (e.g. Flipo, Lievens).

Kallis' vision of a degrowth society

In his latest book *Degrowth* (2018), Giorgos Kallis offers nine principles to capture the "degrowth vision." In order to better understand his selection, I have decided to first present another one of his typology. In a contribution to an edited book, Kallis (2017g: 36-43) discerns six "core principles," "six key ideas about the economy that characterize the degrowth literature" (ibid. 35):

> **1.** *The economy is an invention* (Latouche, 2005)
> **2.** *The economy is political* (Polanyi, 1944; Castoriadis, 1997)
> **3.** *The economy is material* (Georgescu-Roegen, 1971)
> **4.** *The economy is diverse* (Gibson-Graham, 2006)
> **5.** *The central economic question is surplus, not scarcity* (Bataille, 1927)
> **6.** *Economic change is a co-evolutionary process* (Norgaard, 1994)

These six descriptive principles, the author explains, constitute the ontology of degrowth. Building on them, Kallis (2018: 118-23) then proposes nine normative principles that should inform economic life in a degrowth society.

> **1.** *The end of exploitation*: "an egalitarian, classless society"
>
> **2.** *Direct democracy*: "assemblies are imagined at different scales – from local, to regional, to national – in productive and administrative processes, as substitutrss or complements to conventional forms of delegration and representation"
>
> **3.** *Localised production*: "shorter production-trade-consumption circuits"

4. *Sharing and a reclaiming of the commons*: "core resources, goods and infrastructures, such as health, education, water and energy, will be governed and shared as a commons, with egalitarian direct democratic processes"

5. *Provision of relational goods*: "collective deliberations, public policies and common resources should be directed to questions of friendship and love, healthy sexual and emotional relationships, kindship (family, extended family and other arrangements for organizing child rearing, caring for the elderly and caring for another), "plaideia" (not simply education, but the rearing, preparation and socialization of good citizens) and politics"

6. *Unproductive expenditures and dépense*: "not only will the surplus be smaller, so that it is ecologically and socially sustainable, but it will also be expended very differently. A greater portion of it will be directed to unproductive expenditures that slow down the economy and a greater share of these unproductive expenditures will be collective"

7. *Care*: "care work should be revalued and redistributed. […] care should also move to the public sphere […] (be) shared collectively where possible. […] Caring should extend beyond the reproduction of our species towards caring for other living beings and species"

8. *Diversity*: "cooperatives or not-for-profits would be the dominant producers, employing most of the people […] production for market exchange would still take place but it would be confined to the smaller role it had in all pre-capitalist civilizations. […] Production would be done mostly by cooperatives and run democratically through assemblies of workers and users"

9. *Decommodification of land, labour, and value*: "de-economizing these realms [sport, hospitality, care, spirituality] and creating new decommodified spaces"

I find much to admire in Kallis's theory of degrowth. In fact, this framework bears many similarities with mine and it is safe to say that we are in agreement over the substance of what degrowth is. Unfortunately, the author only spends a few pages in the book to describe the principles, and so leaves their selection, definition, and articulations unjustified. Kallis's framework leaves unanswered some important questions about what exactly constitutes "decommodification," how should one understand "exploitation," or where lies the frontier between production and unproductive expenditures, as in the notion of "*dépense*."

From my perspective, certain principles are not fundamental enough (why *direct democracy* and not autonomy as a principle for freedom? Why *the end of exploitation* and not a principle of ethics?) whereas others are too narrow (*localised production* seems to be more of an implication deriving from other principles like *direct democracy* and *the end of exploitation* than a principle of its own). Some principles may be more encompassing than others (e.g. any *commoning* by definition involves some form of *decommodification*; and what is *care* if not an opposite attitude to *exploitation*?).

Verdict: Kallis's nine normative principles, unfortunately, are not as fully developed as I would want them to be, but they provide a solid point of departure.

Abraham's degrowth synthesis

The most recent attempt to articulate degrowth comes from Yves-Marie Abraham, one of the leading francophone scholars of *décroissance* in Québec. In a book titled *Guérir du mal de l'infini : Produire moins, partager plus, décider ensemble* (Curing the malady of the infinite: Produce less, share more, decide together, mt),[1] Abraham (2019b) proposes his own vision of degrowth.

Abraham opens the book confessing that he struggles to recommend a single text that would capture the idea of degrowth. His objective is to remedy that by presenting a synthesis of degrowth ideas based on the course he has been teaching at HEC Montreal since 2013 (*La décroissance soutenable : théorie et pratiques*, Sustainable degrowth: theory and practices). Just like Lievens (2015) and myself in this dissertation, Abraham structures his argumentation with a classic why-what-how structure.

For the *why* and the *what*, the author sets a triple criticism of growth as "self-destruction" (environmentally unsustainable), "injustice" (exploitative of future generations, of the most vulnerable, and of non-humans) and "alienation" (restraining freedom defined as autonomy in the tradition of Cornelius Castoriadis). In light of this diagnosis, he conceptualises degrowth as three fundamental principles: *producing less*, *sharing more*, and *deciding together*. Degrowth is then a refusal of "the grand game of infinite growth" (p.124) or more precisely, "the commodity production race" (p.32). Its objective is "the abolition of the growth society" (p.208).

The second step – the *how* question – is a criticism of firms, or rather of their hegemony in human organisation. This is an attack of the "Firm-world" – I do not know the exact history of the concept, but it seems Abraham borrowed it from Solé's (2008) "*Entreprise-monde*" (Firm-world, mt). Competing firms, he argues, are the engine of the race for commodity production; it is "an unprecedented and brutal form of totalitarianism" (p.229), the "central space where alienation happens" (p.232). Worse, the business spirit has become a model for all other forms of human organisations, making the logic of growth hegemonic in society. For instance, Abraham is even wary of the State, itself being "a creature of the firm" (p.240). If the firm is the problem, it is then "the central institution that must be abandoned" (p.232).

Hence Abraham's panacea: the commons. The author defines an ideal-typical form of commons with four features: satisfaction of needs without the assistance of either the State or markets (*self-production*); the communal property of the means of production (*commonisation*); democratic governance (*democratisation*); and relations of reciprocity and mutual aid (*cooperation*). The commons then represent the "concretisation or practical application" of the three degrowth values. "As soon as we try to *decide together* and to *share* more what is necessary to live, one can only *produce less* than what is produced today" (p.252, italics in original).[2] In sum, degrowth implies transitioning from a "Firm-world" to a "Commons-world" (p.250).

[1] The term "malady of the infinite" comes from Durkeim's *Le suicide* (1897) and denotes the troublesome condition of insatiability resulting from having unlimited needs.

[2] Here is a more elaborate quotations showing Abraham's (2019b: 252, mt, italics in original) reasoning: "As soon as means of existence are genuinely shared – *communalisation* -, that decisions concerning their use are also shared – *democratisation* – and that the labour necessary to maintain our livelihood rests on the principle of mutual aid – *cooperation* –, then production for the sake of production becomes impossible."

The strength of Abraham's framework is that it is concise and thus pedagogical. Three principles, one problem (firms), one solution (commons). Especially valuable is the author's attempt to articulate the three principles together. Its main weakness is a lack of precision, which leaves us wondering about what exactly should be considered "production," how much "sharing" is desirable, and what institutions best fit his ideal of "deciding together." For example, the nature of the firm is never critically discussed in the book while the commons is only given a four-feature minimal definition (need satisfaction, common property, democratic, and cooperative). Abraham owes the reader a more elaborated explanation of the distinction between commons and firm, and why one should invest all revolutionary hopes in the former. Again, the vagueness of the principles limits the analytical power of the framework.

The book is rich in references to old thinkers, especially Marx, Durkheim, and Weber (in addition to the the usual Georgescu-Roegen, Gorz, Castoriadis, and Illich), but feeble when it comes to contextual examples and novel theoretical propositions. The composition of the book is representative of early degrowth texts with a strong focus on the objection to growth (4 chapters for 205 pages out of 275) and only a few remarks about on the question of the *how* (only 1 chapter and 70 pages). Abraham (2019b: 272-73) stands by its silence arguing that radical innovation cannot be planned (because the destination is unknown) and should not be planned (because planning is a technocratic tool). As I have argued in the introduction, and as I will further defend in Part III, I disagree with this monolithic vision of all forms of planning as undemocratic and all types of utopias as rigid blueprints.

Few are those who have attempted to capture the essence of degrowth in one single "theory." After examining Latouche's 8Rs, Flipo's 5 sources, Lievens' 24 postulates, Kallis's 9 principles, and Abraham's 3 principles, I conclude that the mission is far from being accomplished. While each of these frameworks may be sprouts of a potential theory of degrowth, I find them analytically unfit for the present research. Because of clarity, precision, or coherence issues, the concept remains evasive, at high risk of being misunderstood, and with little chance of being embraced as a policy framework by decision makers.

A normative theory of de-economisation

What if the economic was not separated from politics, culture, art, religion, and nature? What if certain acts of provision were not understood to belong to that distinct sphere from society and nature that is now referred to as "the economy"? What if the forms of rationality ones find inside the economy had no reach outside of it? What if the economy and its way of thinking, after ruling over society like it does today, was being brought back in proportion to its social and ecological hosts? I call this hypothesis *de-economisation*[1] and I intend to show that it is the essence of degrowth.

[1] Although uncommon, the terms "economisation" and "de-economisation" (*déséconomisation* in French) are not new. Roth (2017) uses the term in a similar manner than I do, although he remains evasive about what it actually entails (I will rebut his main claim in Chapter 7). Baschet (2014: ch.3) uses it in the same way that I do, even though he does not openly embrace the term degrowth. A subtle difference could be made between *de-economisation* and *de-economicisation*, the former referring to a shrinking of the real economy (less economy) and the second to a shrinking of economic rationality in the imaginary (less economism) – I merge these two understanding together. (I admit that both these terms are of disputable aesthetic value.)

It is Serge Latouche who was first to associate degrowth with an escape from the economy,[1] for example in *Justice sans limites* (2003) and *L'invention de l'économie* (2005). For Latouche, the economy is "a hegemonic thought that monopolises spaces for creativity and colonises minds. Rationality triumphs everywhere and the cost-benefit calculus invades everything up to the darkest corners of the imaginary while market relations take hold of private life and intimacy" (Latouche, 2005: 226, mt). Hence the goal, "sortir de l'économie" (exit the economy), "to challenge its domination on our lives, both theoretical and practical" (Latouche, 2003d: 275, mt).

> "to conceive a serene degrowth society and ways to get there, one must literally leave the economy. This means questioning the domination of economy on everything else in both theory and practice, but especially in our minds" (Latouche, 2004: 96);
>
> "It is not a question of substituting a 'good economy' for a 'bad', a good growth or a good development with a bad one by repainting them in green, or social, or equitable, with a more or less strong dose of official regulation, or hybridisation by the logic of gifts and solidarity, but a question of just *leaving the economy*" (Latouche, 2010: 522; italics added);
>
> "It consists in escaping the imaginary of development and growth, to re-embedded the economic domain within the social and the political in transcending it – or even, in abolishing it" (Latouche, 2011a: 27, mt);
>
> "[The degrowth project] is not another economic project, not even a project for another economy, but a societal project that implies *escaping the economy*, as a material reality and an imperialist discourse. It means breaking away from concrete economic practices, and even more importantly taking the economy away from our heads, or in other words, to *deseconomise* minds" (Latouche, 2016b: 217, mt).

This argument is often misunderstood, so here is my attempt to explain what it means. The idea of escaping[2] the economy consists in two interrelated movements: (1) de-economisation of mentalities and social relations in relation to acts of provision (escaping the *economic* symbolically as a worldview), as well as (2) de-economisation of actual practices and infrastructure (transforming the *economy* in reality).[3]

The first change is cognitive. It consists in rejecting the primacy of the economic way of thinking in the social imaginary through a "deseconomisation of mentalities" (Gorz, 2002: 19, mt). This means deconstructing the hegemony of monetary-seeking goals: GDP loses its importance in public governance, firms cease to maximise profits, and households shun the pursuit of income. In essence, it means that people and organisations should frame their activities of provision around a diverse set of social and moral incentives and not only financial ones. In other words: re-embedding economic behaviour within a broader set of social and

[1] "Escaping from the economy: The politics of Degrowth" (2008) was also one of the first article published in English from French scholar V. Fournier.

[2] The idea of "escape" from the economy should not be understood as exile from an economy that would keep running unchanged. Instead, it is more akin to *taking back* the economy by radically changing how it is organised (the phrase is from Gibson-Graham, 2013).

[3] Both Serge Latouche and Giorgos Kallis follow a similar division: "The rupture of degrowth is therefore related to both words and things, it implies the decolonization of the imaginary and the implementation of another possible world" (Latouche, 2018: 278); "the exit from the mainstream economy is both physical – in the sense of ceasing to produce, consume and exchange for profit for the generalized market – and cognitive – a different understanding of what the economy is, and how it works" (Kallis, 2018: 135).

ecological attitudes. In practice, it involves reducing the centrality of certain economic institutions such as wage labour, private property, markets, money, or for-profit businesses.

The second change is concrete. If economic growth is a process of expansion or/and intensification of the realm of market exchange (Chapter 1), degrowth advocates the same process in reverse, namely a shrinking and relaxing of the commodity domain. Reducing the *scale* of the economy means that certain goods and services cease to be commodities – e.g. public transport is made accessible fare-free, scientific publications are spread via open-source journals, the provision of shelter is being organised via cooperatives and social housing, and work ceases to be quantified (in hours or in output), monetised (in euros per hour or per output), and commodified (in euros per hour/output whose price is set on a market). Reducing the *pace* of the economy means reducing the volume of commodity exchange and therefore of extraction, production, consumption, and excretion, thus decreasing environmental pressures, allowing democratic planning, and liberating time for other pursuits.

These two changes form a reinforcing feedback loop: the smaller and slower the market economy is, the lesser the economic mindset prevails over other modes of thinking. But also in reverse: the magnitude of the market economy makes certain for-GDP, for-profit, and for-income attitudes either dominant (as it is today) or marginal (as degrowthers desire).

The economy is a bundle of socially constructed institutions. Even though it sometime seems set in stone, it is only as solid as it is believed to be. Institutions are like cement, even though they feel solid afterwards, they all used to be softer at the beginning. De-economisation involves the politisation of "economic" life in the sense of making the process of provision socially malleable again by liberating it from an economistic mode of management. The thesis I intend to defend is that such emancipation is desirable, and detailing how this is so is the purpose of the present section.

Assumptions: a real and imaginary escape

Let me first recall two key ontological assumptions underlying the present research. First, the definition I ascribed to the economy in the general introduction. I define the economy as a collective task of provisioning, and provision as a bundle of social relations encompassing five core activities (*extraction*, *production*, *allocation*, *consumption*, and *excretion*). This is a broader definition than what is today understood to be the economy, namely a specific regime of provision following a distinct ontology and ethos (monetary, commodified, utilitarian etc.). In the context of degrowth, talking about de-economisation involves criticising a specific mode of provisioning, but not the anthropological act of provision itself.

Second, the fact that the economy has both a *real* and an *imaginary* existence. With this dual ontological lens, I differentiate between "the economy" (the *real* aspect) and "the economic" (the *imaginary* aspect). For example, the *real* dimension of a transformation of production concerns goods and services whose quantity decrease or that are still produced but not as monetised commodities (e.g. I grow my own vegetables instead of relying on a corporation to do so) whereas the *imaginary* dimension has to do with the logic of production (productivism) or a specific way of thinking that frames the act of production (e.g. I grow my vegetables slowly and peacefully, with a strong focus on taste, ecological maintenance of soils, conviviality, and an array of other concerns that go beyond productivity).

In the realm of the imaginary, and following my definition of provisioning as a 5-step process, the escape has to do with *extractivism* in the management of natural resources, *productivism* in the sphere of production, an exit from *commercialism* in the sphere of allocation, *consumerism* for acts of use, and *excretivism* in the treatment of products in their end life.

The importance of this distinction cannot be understated and so it might be worth offering a more elaborated example. If a factory, let us say producing pins, goes bankrupt and that inhabitants of the city decide to appropriate the facility in order to self-produce their own pins. No wage is being received, no pins are being sold, and so the factory can be said to be *outside* of the GDP economy.[1] It has concretely been de-economised.

Yet, if the inhabitants manage the factory as to maximise productivity, with a complete disregard for fairness and ecological sustainability, they have escaped the *real* economy but not the *imaginary* one as they are still the slaves of an economic way of thinking. But if they rather focus on producing just what they need, in a way that makes them proud and happy and following principles of social-ecological care, with a focus on quality over quantity, of durability over productivity and so on, then they may escape both the economy and its mindset – they have achieved what I describe to be the objective of degrowth.

Economy-in-society-in-nature with financial-in-social-in-moral incentives

Degrowth is a response to a historical anomaly, namely the disproportionate rise in importance of the economy in comparison to its surrounding cultural and natural environment. The fundamental problem is one of disproportion and desynchronization: the economy is *too big* and *too fast* for both its social and ecological supporting systems.[2] Economic growth is an excrescence of economy onto society and nature. For Latouche (2019b, mt), "the river of economy has flooded everything else"; Frayne (2015: 90) speaks of "encirclement" to denote how markets came to surround communities; Lepesant (2018: 228, mt) writes that society was "swallowed by the economy"; Laurent (2019b: 53) describes the economy as a stomach that would grow at the expense of all the other organs; while Sandel (2012: 7) speaks of "the expansion of markets, and of market values, into spheres of life where they don't belong."

Size matters: the scale of an institution should be evaluated in proportion to the other institutions that surrounds it. This was the basic insight of Austrian economist Leopold Kohr (1909-1994), the intellectual mentor of Ernest Friedrich Schumacher and Ivan Illich.[3] In *The Breakdown of Nations* (1957), Kohr offers a theory of size targeting *bigness* as the source of most social issues. Discussing economic matters, he writes:

[1] In reality, music is a good example of an industry that has been progressively leaving the GDP economy in real terms. Between 2002 and 2013, the revenues of music businesses have more than halved (Perret, 2015: 27). The diversity and volume of new artists and songs, however, have not been decreasing accordingly – this is because more and more of the activities linked to the production, distribution, and consumption of music occurs within non-monetary realms (e.g. peer-to-peer networks, self-production).

[2] The order here matters: the economy should be small/slow enough to be *managed* democratically by society which itself should be small/slow enough to *fit* within its natural environment. This corresponds to the ontology of ecological economics which conceptualises an "economy-in-society-in-nature" (Costanza et al., 2012).

[3] Kohr's appeal to smallness prompted Schumacher to write *Small is Beautiful* (1973) and led Illich to focus on the counter-productivity threshold after which an institution would become too big to serve its purpose – e.g. schools in *Deschooling Society* (1970) or healthcare in *Medical Nemesis* (1976).

> "It is not any particular economic system that seems at fault, but economic *size*. Whatever outgrows certain limits begins to suffer from the irrepressible problem of unmanageable proportions. When this happens to a community, its problems will not only increase faster than its growth; they will be a new order, arising no longer from the business of living but from the business of growing. Instead of growth serving life, life must now serve growth, perverting the very purpose of existence" (Kohr, 1957: 145, italics added).

The issue of size has social, political, and ecological dimensions. *Social* because global supply chains may hide situations of exploitation or because a pervasive market sphere might encroach on social attitudes; *political* because direct democracy becomes difficult – if not impossible – past a certain group size; and *ecological* because the carrying capacity of ecosystems are limited by the laws of nature (Chapter 2).

Size is important, but speed is too. The objective is to synchronise the tempo of economic affairs with the ones of political and ecological life. The first economic speed must be set based on the ability of the environment to renew resources and absorb waste. For ecological sustainability, *the economy should only run maximum as fast as the biosphere*.

The second speed limit concerns the ability of the economy to be democratically managed. Democracy takes time, and the time it takes sets a speed limit for economic life. For social sustainability, *the economy should only run as fast as direct democracy can keep up with*.

Every time there is an economic decision for which there is not enough time to deliberate democratically (e.g. the bail-out of the banks during the Global Financial Crisis) and/or for which there is not enough time for nature to recover (e.g. the national pledges in the Paris Agreement being insufficient to avoid climate breakdown), it is a sign that the economic process should be slowed down. In that sense, degrowth as synchronisation means reconsidering and restructuring modes of extraction, production, allocation, consumption, and excretion in respect with both natural and political rhythms.

The proposition is not that the economy and its associated way of thinking are evil but rather than a process of provisioning should always be small and slow enough for a given society to be able to alter its course should they find that it is creating more issues than it solves. It is a matter of preserving collective autonomy by ensuring that the rules and significations applying inside the economy do not become a source of heteronomy outside of it. This is important because the economic logic of accumulation is distinct from the logic of sustainability of ecosystems and the one of sustaining of communities. In the same way that society should abide to a logic of "nature knows best," the economy should abide to a logic of "culture knows best." To formalise: accumulation (economy) should be restrained by sustaining (society) itself retrained by sustainability (nature).

The idea of escaping the economy should not be understood as a total exit from what we today consider "economic" activities (e.g. market exchange of commodities) but rather as a relative downscaling (or more precisely *right-sizing*) of the economic sphere in the overall sequence of provision to the point where it is small and slow enough to be supported democratically and culturally (social criteria) and sustainably (ecological criterion). It is, in other words, tantamount to setting scale and speed limits on the spread of economic institutions and rationalities. If the growth society is understood as what Gellner (1988) calls a "single-stranded" society or what Marcuse (1964) calls "one-dimensional," namely one where social

life is focused on a single criterion, in our case economic growth, degrowth aims at rebuilding a multi-*stranded* or multi-*dimensional* society with an ecology of purposes and concerns.

Hence the importance of democracy. Economic democracy plays a central role in the degrowth argument. But let us be careful.[1] I understand economic democracy in the sense given to it by radical socialists like Schweickart (2002), Albert and Hahnel (2006), and Wright (2010), that is an economy where decision-making occurs via democratic process of deliberation at all levels (see also Wolff, 2012; Johanisova and Wolf, 2012; and Boillat et al., 2012). This is, however, only one constraint out of two: the economy must be *democratic* and *ecologically sustainable* (even though we will see later in Chapter 7 that the two aspects are linked).

Escaping economic attitudes: GDP, the profit motive, and utilitarianism

The narrow definition of what is today considered to be the economy is only one way of organising provision. This ideal-type comes with a specific common sense or what I refer to in this thesis as an *economic* way of thinking (*economistic* would ever be more precise). The economic mentality manifests itself at three levels: governments maximise GDP, firms maximise profits, and individuals maximise utility, often understood as income. The maximisation of these three monetary measures is an economic commonsense but not necessarily a social or moral one. And that is the problem. De-economisation implies that certain aspects of life (e.g. education, research, healthcare, farming, mobility, art) should emancipate from these quantitative objectives.

Abandoning GDP to develop a not-for-GDP form of governance is crucial. Degrowthers never tire of postulating that GDP should be, not only ignored, but also directly opposed (Chapter 7). As we saw in Chapter 1, the construction of national accounting indicators was instrumental in the establishment of growthism. Because indicators are the basic element of ontology, a change of imaginary necessarily involves a change of indicators. For that reason, escaping the economic suggests, not only rejecting GDP, but more fundamentally abjuring the notion that there is an economy in need of being measured. The alternative is to use a dashboard of social-ecological indicators. Note: *social-ecological* and not *social-economic-ecological*; the economic aspect (re)becomes indissociable within the social.

Let us scale down from national to firm level. Profit maximisation is a recent, culturally-specific way to frame business. It is not, however, the only one. Whereas a firm can be managed as to maximise financial returns to shareholders, it can also be managed to achieve a social mission. De-economisation of companies (among other actors of production) means the demise of the profit-motive as a hegemonic justification for production; it means placing financial profitability as one criterion among many in the periphery of broader social and moral motives. Concretely, this means ensuring that every firm's statute declares a *raison d'être* that is not

[1] "Economic democracy" should not be confounded with a *wallet democracy* of sovereign consumers and workers. In the latter, participants have relatively equal power for purchasing, employment, and entrepreneurship, which is essentially an equality of opportunities in the economy of today with all people playing by the same rules. "[B]ut what good is a level playing field in a match between schoolchildren and a Premier Leage team?" quips Hickel (2017d: 193). Instead, economic democracy should rather be understood as a *democratic economy* for a situation where the rules of the economic game themselves are set and revised democratically, with stakeholders (sellers and buyers, debtors, and creditors, employees and employers) all being given an equal voice. One specific definition fitting with the latter is the Economic Democracy Index proposed by *The Transforming Public Policy Through Economic Democracy Project* (for more, see Cumbers, 2018).

only moneymaking and that profits cannot be legally appropriated by individuals (more details on the implications of such change in Chapter 9: Democratic ownership of business).

The last level has to do with individuals and is a critique of the *homo economicus* model. A plethora of authors have addressed the shortcomings of such an assumption in economics and its dangers of becoming an anthropological reality to the point where rehearsing them here would be, as Castoriadis (1997: 39) would say, as useful as whipping dead horses.[1] Suffice to say that escaping the economic means restoring the multidimensional, holistic image of human beings at the expense of an "under-socialised" view of people (Granovetter, 1985): an income- and utility-seeking Economic Man always engaged in a felicific calculus of some sort. Taking an anti-utilitarist perspective (and I will explain why I use that term later in the chapter) is not to deny that people hold different interests, but that economic ones do not have primacy over all others, and that some behaviours might be totally devoid of individual interest altogether. Essentially, it implies a limitation of the fields of influence of economic rationality over other types of social attitudes – in other words, the promotion of not-for-income and not-for-utility behaviours and ways of thinking.[2]

Whereas *economisation* subdues an activity that was previously governed by political laws or cultural customs to an economic logic (e.g. the privatisation of a grazing commons, the addition of a fine for late pick-up at a day-care centre, the shift from Couchsurfing to Airbnb, the privatisation of scientific journals), *de-economisation* strips an activity from its economic framing to make it political again (e.g. making it illegal to sell organs for money, managing a local windfarm as a commons, self-organised child care networks, the shift from Microsoft Encarta to Wikipedia, fare-free public transport, work as a civic duty or for pleasure rather than for a wage) – the opposite of economisation would then be re-politisation (in a broad understanding of the term, namely entering the realm of the political, and not only politics).

The ultimate goal is to construct an out-of-economy society: a provisioning system emancipated from the pursuit of GDP, profits, and income. A "convivial society that is plural, liberated from the religion of growth and of economy" (Latouche, 2005: 229, mt); "a society in which economic values are no longer central (or unique), where the economy is brought back as simple means of social life, and not as its ultimate end" (Castoriadis, 1996: 96, mt), where "economic rationality [is] subordinated to an eco-social rationality" (Gorz, 1994: 12). In a nutshell, de-economisation means regaining autonomy over the governance of provision.

An analogy: the game of economy

In summary of this theory of degrowth as de-economisation, here is an analogy. First, if what is currently understood as the economy is a game, degrowth aims at doing two things: changing the rules of the game (emancipation from the dominant economistic *imaginary*), and reducing the scale of the game, in the sense of spending less time playing and thinking about the game as well as reducing its impact on real life (*real* downscaling of the commodity domain).

[1] "What is actually occurring in the 'economic science' has suffered so many devastating criticisms, and is so distant from reality, that addressing it longer might seem as anachronistic and useless as whipping dead horses" (Castoriadis, 1997: 39).

[2] For example, Bloemmen et al. (2015) describes the ideal-typical degrowth agent as non-maximising, nonprofit-seeking, searching quality versus quantity, small scale; showing sympathy, conviviality, seeking cooperation and community participation; and feeling responsibility towards nature.

If the game is poker, it would mean setting rules that ensure fairness among players and prevent cheating, and playing less often while reducing the buy-in fee as to reduce the stakes. The goal is to relativize the importance of the monetary economy, to the point of being able to even forgot that it exists at all. If I play poker with my friends, I do not consider the losers as lesser human beings, and that is a good thing. The goal would be to achieve the same detachment about "economic" reality, looking at money haves and have-nots only as players of the economy game.

One way to take back control over the game of economy is to anchor it in time and space. There should be a spatial and a temporal *inside* and *outside* the economy where two different sets of rules and customs are to be applied. For example, the economy is *on town square* for the weekly outdoor market but only at designated opening *times*. At the end of the day, when one closes shop and head to the same public square for a drink, beggars and traders should cease to be economic actors (or rather players) to become equal citizens again. Using Carse's notion (1986), the economy should be a "finite game" with clear rules and an end point and not an infinite one going on forever. The game of economy should be prevented from colonising the game of life in a Jumanji-like fashion effect and degrowth is precisely about that process of putting back the economy where it belongs.

Degrowth proposes a divorce with society leaving its economy after a repeated situation of social-ecological abuse.[1] De-economisation means a smaller economic mind in a smaller (and slower) economic body. Whereas the dominant representation of economy and its associated real practices treat nature and society as mere factor of productions of an all-encompassing marketplace, degrowth reverses that hierarchical order to nest the domain of commodities as only a small part of social relations embedded in culture and nature.

Degrowth aspires to a state of harmony where the economy is small and slow enough to be responsibly managed by a democratic society which is itself small and slow enough to guarantee ecological sustainability. Escaping the economy means recognising that ultimately people live in society and not in the economy, and that Nature lies outside and not inside of it.

The economy should not be the only way to access resource but rather a game that one plays, sometimes, and always among consenting adults. (It is here important to reiterate that escaping the economy does not imply a cessation of human activities of provision, which would be absurd, but only a change in the way they are organised.) So if stated in one sentence: degrowth is a process of de-economisation, or in other words, autonomy from Economy.

Degrowth values

The objective of degrowth cannot be stated in economic terms for that its purpose is precisely to supersede economic rationality with extra-economic criteria. This section details such criteria

[1] Manon Dervin, winner of a student essay competition at Sciences Po Rennes in 2015, ends her "Letter to Growth" with the following sentence: "Dear Growth, I am sorry but you must accept these words as a break-up letter. Today, I am regaining my freedom with Conscience. Today I am not afraid anymore, neither of tomorrow nor of others. I thank you for the good run we had together but there is no point in continuing our relation. We do not have the same vision of what Life is about" (mt).

in the forms of three universal values, which I argue should be the foundation of a degrowth society: *autonomy*, *sufficiency*, and *care*.

This is my attempt to define the term of "social-ecological justice," which I have been using since the beginning of the dissertation. Since few people would be against the three values stated as such, the controversy lies in the way I interpret these terms. In contrast with domination and alienation, *autonomy* is a principle of individual and collective freedom. *Sufficiency* is a principle of distributive justice that informs the satisfaction of human needs within and across generations. As for *care*, it defines a principle of non-exploitation and solidarity in our relation to other people and nature.

Together these principles form a moral philosophy for degrowth. These principles allow me to refine the claim of the previous part by being more precise about the de-economisation that degrowth calls for. Degrowth is a rejection of economic thoughts and practices when they lead to domination, injustice, and exploitation. Its purpose is to create alternative practices of provision whose logic and outcomes do precisely the opposite, that is promote autonomy, sufficiency, and care.

I realised that this section was necessary while trying to synthesise the different moral positions in the degrowth literature. In my reading, these were rarely articulated and often too reductive or superficial. Degrowthers make claims at a level that is not precise enough to allow for rigorous elaboration (e.g. reduce inequality, competition, or exploitation of nature) or just outsource the theoretical work by referencing others without further detailing the use they make of it (Castoriadis's *autonomy*, Illich's *conviviality*, etc.). This ambiguity becomes problematic when one tries to translate values into operational goals and objectives (the ambition of Part III). Making choices as to how one should define these values is the task now at hand; I will first detail each value individually before detailing how they interact together.

AUTONOMY

Because degrowth is an emancipatory thought, it must come with a definition on what it means to be free. Indeed, speaking of decolonisation of the imaginary assumes that there is such a thing as an *authentic* imaginary that should be liberated from external constraints. But what is the ideal of freedom degrowth should aspire to? According to which criteria, in other words, should one declare that an individual is free and a society democratic?

In this part, I suggest a Principle of Autonomy which can be phrased as such: *An individual or society is autonomous when it can take decisions critically and deliberately without dominating influences from the outside*.

To avoid confusion later on, let me first make a distinction between freedom, liberty, and autonomy. I consider freedom and liberty as synonyms, which I define with MacCallum's triadic definition (1976 cited in Carter, 2016): "a subject is free from certain constraints, or preventing conditions, to do or become certain things."[1] I understand autonomy as a specific

[1] Since Isaiah Berlin's "Two Concepts of Liberty" (1958), it is common for philosophers to differentiate between negative liberty (the absence of external constraints, i.e. freedom *from*) and positive liberty (the presence of internal control, self-realisation, e.g. freedom *to*). In this principle, I follow MacCallum (1967) and break down the division. "Freedom is therefore a triadic relation – that is, a relation between three things: an agent, certain preventing conditions, and certain doings or becomings of the agent. Any statement about freedom or unfreedom can be translated into a statement of the above form by specifying *what* is free or unfree, *from* what it is free or unfree, and what it is free or unfree to *do or become*" (Carter, 2016 commenting on MacCallum).

form of freedom having to do, not only with the ability to act, but more precisely with the will to act. Because it intervenes at a later stage, freedom (then synonym with agency) should then be seen as autonomy put in practice. For instance, you can be autonomous in the setting of your diet (let us say veganism) but still constrained, that is unfree, to act on it if living in a country where vegan options are scarce (imagine a single-option school cafeteria) or where the idea of veganism is socially frowned upon. You have *autonomy* but no *agency* over your diet. I should also clarify that I do not use the term "autonomy" in its more vulgar denotation, namely a lack of dependence towards others, then synonym with self-reliance, autarky, and self-sufficiency.[1]

In the degrowth literature, the term autonomy has slightly different, although not dissonant meanings for several authors. I will here focus on the three authors I find most remarkable, Cornelius Castoriadis (1922-1997), Ivan Illich (1926-2002), and André Gorz (1923-2007). Castoriadis (1987) used it at both individual and collective levels to describe the power of self-institution and self-supervision expressed by those who are emancipated from external beliefs, norms, and codes of conduct and therefore free to invent their own futures. Illich (1973) used the term to refers to the ability to escape certain tools and institutions once they become a source of constraint. Gorz (1982) borrowed the term from Illich, gave it an existentialist spin, and used it with a strong focus on autonomy as freedom from wage-labour: is autonomous who can engage in the activities of their choice regardless of them being considered "work." In my judgment, it is in Castoriadis that one finds the most elaborated theory of autonomy and this is why I use him more than the two other authors – even though I will nonetheless retain the existentialism of Gorz.[2]

I build the principle in three steps. I start by defining *domination* and *alienation* as two features of an unbalanced power relation. Then I specify what autonomy means at the individual level from an existentialist perspective. In a third step, I place *autonomy* in relation to *democracy* as to clarify what collective autonomy means.

Step 1: defining domination and alienation

It all starts with power. In Weber's famous words, power is "the probability that one actor within a social relationship will be in a position to carry out his [sic] own will despite resistance" (Weber, 1922: 53 cited in Allen, 2016). This is a relational understanding of power, that is power-over someone and not only power-to do something – one could say that power exists *through* the relation. I have power over someone if I can get them to act or think something they would not otherwise do, for example, forcing my students to read a specific book.

Power is everywhere, but not all relations of power lead to domination. I understand domination as cases where an asymmetry of power leads to undesirable forms of *alienation* (domination is then synonym with subordination, subjection, coercion, and oppression). Alienation is the "separation of a subject and object that properly belong together" (Leopold,

[1] For the sake of precision, I should also say that my understanding of autonomy is different from both *economic autonomy* in the sense of self-reliance and *personal autonomy* as the minimum capacity for self-government, e.g. the state reached at adulthood when not afflicted by debilitating pathologies.

[2] Illich can be read as an application of Castoriadis' concept of autonomy to specific modern tools and institutions. This is why I will use his concept of conviviality (autonomous control over a tool) in the next part. It is well-known that Castoriadis was critical of existentialism in general and of Gorz's work in particular. But, at the level of this principle, I find no irreconcilable contradictions in weaving parts of their two approaches together.

2018).[1] A subject becomes alienated *from* something when it experiences a distancing from that thing, which went from being considered familiar to strange or alien.

One can be alienated from someone else, from a group, from an institution, or even from oneself. If a dominator person A has power over a dominated person B, it means that A has the capacity to interfere with B's choices in way that the choice imposed by A would feel alien to B (B's actions and thought depends on the arbitrary will of A); it also means that the interference is at A's discretion and B has limited possibility to exit the relationship. For example, think of slaughterhouse workers who are coerced into performing tasks they hold to be wrong only by fear of being fired; they are alienated from their decision to perform the task as they would see fit (e.g. killing animals in a humane manner or not killing them at all).

So a relation of domination involves *alienation* of a subordinated person's own choices; someone is coerced in doing something that make them feel divided. A good starting point would then be to say that a lack of autonomy is a specific form of alienation. There are various types of alienation: personal and social, individual and collective, subjective or objective.[2] The one concerning us here is social alienation, that is the one where individuals and groups are – even though they may not feel it – alienated from their own choices because of powerful agents and structures. To put it differently, situations where one is illegitimately or unjustly controlled to think and act in a specific manner by someone else – this is what Castoriadis (1975) calls *heteronomy*, the opposite of autonomy. As this point, I should stress that, following my definition, while not all forms of unbalanced power relations are undesirable (think children following their parents' orders, or constraints imposed into inmates), all forms of domination are, by definition, undesirable.

Jaeggi (2014) describes alienation as the absence of appropriation over one's choices.[3] To lack autonomy means to be disconnected from one's agency; this is a situation where one is the passenger of an alien will, not driving but being driven (Leopold, 2018). It is the domination of another's project over one's own, a lack of authorship over one's life. For the hungry, autonomy is the difference between starving (I would eat if I could) and fasting (I have willingly decided not to eat). Another example: the long-term unemployed who wants to be a nurse but decides to become a bank teller instead is alienated from that choice, which was imposed by the outside (here the impossibility to become a nurse, the availability of jobs at the bank, probably together with the imperative to earn a living).

Antonio Gramsci (1891-1937) calls this form of domination "hegemony," an invisible relation of influence imposed willingly onto people. An institution is hegemonic if it promotes "a common sense that installs the particular worldview of one group as the universal horizon

[1] In the original definition, the author wrote about a "*problematic* separation of a subject and object that properly belong together" (Leopold, 2018, italics added), with the *problematic* emphasising that this separation is psychologically or sociologically detrimental. I have decided to leave the "problematic" out and to start a step before with a normatively neutral definition of alienation, which can then be both positive or negative for the alienated subject. In the above definition, the "properly" hints to a specific assumption of how thing should relate to each other in an authentic setting. In other words, alienation is a misalignment between two things that would otherwise be aligned.

[2] Alienation can be subjective or/and objective (Hardimon, 1994). I personally *feel* alienated from the French government knowing that part of my taxes is being used for military spending, but others may feel otherwise. In a patriarchal society, women are alienated from men, whether they feel it or not. In this principle, I am mostly interested in objective forms of alienation, who are sometime experienced as such and sometime not, but always represent a loss of objective autonomy. Certain employees may not complain about their work in industrial slaughter houses, but it could still be argued that the forced, mass killing of animals might alienate us humans from a desirable part of our Self, namely empathy for nonhuman others.

[3] Someone is not alienated when "one is present in one's actions, steers one's life instead of being driven by it, independently appropriates social roles and is able to identify with one's desires, and is involved in the world" (Jaeggi, 2014: 155).

of an entire society" (Srnicek and Williams, 2015: 132). For instance, as a university student I have the impression that I can choose to study whatever I want but that is not really a free choice because I am constrained by certain moral rules (exit the diploma in torture techniques), my future ability to secure a well-paid job (exit the diploma in transcendental philosophy) or by the specific definitions of what constitute knowledge within the society I live in (exit the diploma in wizardry). So even though I am free to choose, my autonomy is already constrained by the interests of others.

So far, I have mostly discussed individual cases of alienation, but alienation can also occur among broader social categories based on gender, class, nationality, or anything else. In a patriarchal society, men can impose their values onto women (either directly or indirectly), or said differently, men's values are hegemonic in a patriarchal society (one could also say that men's values can become a source of heteronomy for women). In Chapter 1, I wrote about the growth fetish as a situation of collective alienation where a social construction (Gross Domestic Product) escaped autonomous control and became a source of domination. Traditional Seychellois tuna fishers who are forced to over-fish under the pressure of their profit-seeking bosses and/or its GDP-seeking governments are being dominated by the interests of others through a hegemonic institution.

Step 2: Individual autonomy from an existentialist perspective

Although autonomy is not only a personal feature, it necessarily originates within one single person. At this point, I have defined autonomy as a non-alienated relation towards one's own choices, autonomy as non-domination in the setting of one's will. What I want to do now is to clarify the source of that autonomy within the subject who is making the decision; in essence, finding out where does autonomy come from.

"I would say that an individual is autonomous if she manages to establish a relation between her unconscious, her past, the conditions in which she lives, and her as a reflective and deliberative entity" (Castoriadis, 1996: 162 cited in Poirier, 2004: 83, mt). Autonomy is a relation: in the same way that one can be alienated *from* something, one is autonomous *in relation to* something. I can be autonomous in relation to the norms of stopping at a red traffic light or paying my taxes if, upon critical reflection of that norm, I approve of it and willingly decide to respect it (one could also say that I would then not feel alienated from the norm because I would identify with it).[1] At this point, I treat autonomy as an on/off feature: autonomous if a decision results from a critical deliberation, within the self, and heteronomous if it does not.[2] Later we will see that past the point of engagement (a minimum threshold for autonomy), autonomy is more of a gradient.

But to identify with something, I must be clear about my identity, that is the *authentic* definition of who I am. This brings us to the difficult question of human existence: What does it mean *to be*? And it is here that existentialism comes to centre stage. The existentialist answer is that one cannot define what it means to be human since meaning is an emerging property of existence itself. As Jean-Paul Sartre's (1905-1980) slogan goes: "existence precedes essence."

[1] Autonomy is the lucid and explicit self-institution of an individual or a community that gives itself its own laws and is aware that they are doing so" (Poirier, 2004: 32, mt).

[2] Plain to see that autonomy is not desirable for all decisions. For instance, bodily reflexes are heteronomous because unreflected upon before action, which is not necessarily a bad thing.

What *I am* is not fixed to being a white, male, able-bodied, rich, French scientist (or anything else a third-person can observe of me), but depends of what I make of myself, or rather what I take myself to be in specific situations. People are the *projects* (one could say the *raison d'être*) they assign to themselves.[1] What I am depends of what I do; I come to exist by producing myself, and I keep existing only as I keep actively producing myself.[2]

Even though, the two views clash on other aspects, I find this existentialist reading of identity always in the becoming compatible with Castoriadis' idea of the social imaginary as a *magma*, that is a quantum ontological soup that carries with it a diversity of possible ideologies and institutions. Or, to translate from academese to English, if individuals are fundamentally free to become who they want to be, then societies are too.

Authenticity indicates the coherence of one's behaviour with their *raison d'être* or their project, it describes the life that is dictated by the individual and not by its external environment (including the unconscious[3]). To be authentic, and therefore autonomous, one must be engaged. Engagement signifies that one actively chooses their projects and actions without appealing to a foreign logic. Autonomy means recognising oneself as a source of novelty, keeping one's creativity un-alienated from outside beliefs as to remain the author of one's life. "In choosing 'resolutely' a certain way of being in the world, I have given myself the rule that belongs to the role I come to adopt.

The inauthentic person, in contrast, merely occupies such a role, and may do so 'irresolutely,' without commitment" (Crowell, 2015). My refusal to fly or eat animals is inauthentic if it springs from peer-pressure (behaving like environmentalists are supposed to behave) or the unconscious (behaving like my unconscious guts tell me to believe), but it is authentic if I commit to such course of action willingly and rationally acknowledging that such commitment then becomes a part of myself – not only something I do, but something I am.

If autonomy means being authentic to oneself, and if the identity that defines this authenticity is itself always in the making, it means that autonomy is not an end state but rather a never-ending process of critical engagement. It is the active attitude of someone "who is capable of uncovering phantasies as phantasies and who, finally, never allows them to rule – unless he or she is so willing" (Castoriadis, 1975a: 154). To simplify, one could say that the mark of heteronomy is an "I don't know" answer to a *why* question. If I do not know why I do not eat meat, this is a source of heteronomy. And again at a second why: If I do not know why it is wrong to eat animals (a potential answer to the initial *why do I not eat meat*), this is a source of heteronomy. This Socratic process of why-questioning is the essence of what it means to be autonomous – an ideal never reached requiring constant self-examination efforts.

This critical engagement can be seen as a systematic questioning of all authority. Castoriadis (1998, mt) holds the Socratic ideal of the philosopher as an example of the autonomous individual: "In philosophy […] setting its own rules means the rejection of

[1] Gorz (1983: 64, mt) uses the term *project* to define autonomy: "we can call someone autonomous when s/he conceives and carries out a personal project whose goals s/he has invented and whose criteria for success are not socially predetermined."
[2] In existentialist jargon, the act of constantly challenging one's own facticity is called *transcendence* while the inability to do so is called *immanence*.
[3] "Autonomy would then be consciousness's rule over the unconscious. […] If to autonomy, that is to self-legislation or self-regulation, one opposes heteronomy, that is legislation or regulation by another, then autonomy is my law opposed to the regulation by the unconscious, which is another law, the law of another, other than myself" (Castoriadis, 1987: 102).

authority. Not even the authority of its past thought. […] Autonomous thinking is unlimited, unstoppable questioning that is constantly self-critical."

As *self-institution*, autonomy starts with a rejection of everything that is institutionalised. In the same way that the hatchling must tear through its eggs to come to exist, the autonomous person must first refuse all beliefs before being able to choose which ones should be opposed, which ones should remain, and which ones should be created. This is the famous May 68 graffiti: "obedience begins with consciousness; consciousness begins with disobedience." Or one could say, following Gandhi (1938), that autonomy (what he called *swaraj* or self-government) involves both the right of rejecting rules that one finds unfair and the duty to respect rules one agrees with; it is ultimately a voluntary obedience to rules.

Because a source of autonomy today might turn into a source of heteronomy tomorrow, I remain autonomous as long as I engage in a constant and conscious critical evaluation and selection of discourses coming from the world outside of the conscious me. In sum, I am autonomous if I actively create my own world.[1] (Of course, this world is never fully "created" for that my world is resisted by the autonomy of others trying to shape their own worlds as well as by unconscious imagination.) In essence, self-institution means choosing what to believe in, or in Castoriadis' terms, choosing one's own heteronomies through critical reflection.

Two remarks. First, autonomy is relational and not merely individual. Because it is a relation in between the self and others, an individual growing up on a desert island that would never have encountered another person could not be said to be either autonomous or dominated. Only with the arrival of a competing consciousness can such states come to exist. For Castoriadis, autonomy is "social-historical" because people are never born in a social vacuum and so are always somehow biased in their choices by their pasts and present situation. Being autonomous means gaining knowledge and control over outside influence of culture and nature, while accepting the fact that life – and especially the one in society – necessarily involves a degree of hetero-determination. This also means that autonomy is never total: because your autonomy ends where mine begins, we cannot all be fully autonomous at the same time. Instead, the setting of the boundary between autonomy and heteronomy is a continual process of social bargaining (hence the importance of democracy). This also means that some people, the one who have power, have more objective possibilities to be more autonomous than others (hence the importance of equity).

Second, autonomy is emotional as well as rational; or, to avoid any unnecessary dualism, one could say that autonomy involves the whole of what it means to be human. Autonomy requires certain rational competencies (e.g. critical thinking to make a decision, for example deciding that it is wrong to eat animals) but also emotional dispositions (e.g. self-confidence to trust that analysis and thus enable me to actually stop eating animals). In other words, it does not only depend on my actual capacity, but also of my own perception of this capacity, which itself depends of my social environment. Again, autonomy is relational. As such, it is affected by all the myriads ways human interact, and not only the influence one would be able to consciously reflect about.

[1] One could wonder how to remain autonomous. For Castoriadis (1977), the goal of autonomy is reached at the individual level via education (to emancipate from the influence of passions and prejudices) and therapy (to emancipate from unconscious urges). It follows that one is not born a citizen but rather is educated and (self-)examined to become – and stay – one.

Step 3: Collective autonomy and democracy

Autonomy is not only a property of individuals, it also applies to groups of people.[1] A collective (household, organisation, city, company, government, etc.) is autonomous if its rules are set through democratic deliberation among autonomous individuals. "What is a free, or autonomous society? It is a society that gives itself, effectively and reflexively, its own laws, while knowing that it is doing so" (Castoriadis, 1997b: 65 cited in Asara et al., 2013: 227), one "whose attitude towards its own institutions is lucid, reflective and free, one that is not subservient to those institutions" (Castoriadis, 2010: 231 cited in Kallis, 2019: 55).

In other words: it is a community that consciously embraces *self-limitation*. The awareness that one is autonomous is crucial. Whereas both autonomous and heteronomous societies do create their own rules, only the autonomous society is aware that it is doing so and as such is capable of critically reflecting on them and changing them. For example, consider the difference between someone biking instead of driving because they either enjoy it or out of environmental consciousness, and someone else doing the same because they cannot afford to keep their car running.

Whereas autonomy for the individual is to be achieved by establishing a reflective and deliberative relation between a subject and its environment (past, unconscious, and social context), autonomy at the collective level does just the same except with a broader boundary of what is to be considered outside of the decision-making subject (I consider all other inhabitants of Stockholm outside of *me* as an individual subject, but not outside of *us* as a city community). Collective autonomy is the explicit self-institution of social life that is constantly reflected upon and never set in stone.

The self-managed company is a good example of collective autonomy. In such an organisation, workers set the rules (e.g. wage differential, schedule, working conditions), decide to abide to them knowingly (and not by constraint), and are able to change them democratically (via, for example, one-person-one-vote deliberation). A colony or occupied territory, on the other hand, is the most radical form of heteronomous order as it has no agency over the setting of its institutions. Be there social (laws and customs) or cultural (religion and tradition) – life in a colony is dictated from the outside. (The Structural Adjustment Programmes of the World Bank and the International Monetary Fund imposed onto certain countries would be another example of a lack of autonomy.)

Is collective autonomy synonym with democracy? Well, it depends what one means by democracy. Democracy can be either *representative* or *direct*. Democracy is representative if it relies on a small group of elected officials who makes decisions *in representation* of a broader society (this is democracy as we currently know it in most OECD countries). Direct democracy, on the other hand, relies on face-to-face deliberation in smaller assemblies, often at the neighbourhood or municipal level. An example of a vision of direct democracy is Fotopoulos's "inclusive democracy" (2005, 2010a) or Bookchin's (e.g. 1971) "libertarian municipalism."

One should note that the two forms of democracy are not competing and can complement each other. For example, Felber's (2015: ch.6) "Economy for the Common Good"

[1] As to where lies the limits between the individual and the collective realm of autonomy, one could follow Wright (2016: 139, italics in original) while commenting on the Participatory Economics (Parecon) proposal of R. Hahnel and M. Albert: "If a decision only affects oneself, then that decision can be autonomously made without anyone else's involvement; but if a decision affects other people, then they should be co-participants in the decision *to the extent that they are affected*."

combines *representative* democracy in parliaments and government, *direct* democracy in citizen's conventions and referendums, and *participatory* democracy in commons. Of course, some readers will rightly wonder whether certain forms of democracy are more fitting to certain scales (e.g. representative democracy within a 10-people firm seems unfitting and direct democracy at the European level unfeasible). I leave this question in suspense for the moment and until Chapter 7. For now, let us consider collective autonomy as the striving to make democracy *as participatory as possible*.

SUFFICIENCY

Degrowth seeks the good life for all. But what constitutes the "good life"? Who is included in "all"? And which criteria should inform the sharing of the constituents of a good life? Answering these questions requires a principle of distributive justice.[1]

In the jargon of political philosophers, a distributive theory of justice details how benefits and burdens should be shared between members of a community (it differs from *ethics*, the fair treatment of others, which I will discuss in the Principle of Care). Political economy always carries assumptions about justice and rigorous political economy must make these assumptions explicit and justify them.

Hence the Principle of Sufficiency that I will now develop: *Distribution is just when everyone has enough to satisfy their fundamental needs, where no one compromises ecological sustainability through lifestyles which would not be universally reproducible, and where levels of relative inequality are autonomously chosen to be socially acceptable*.

As of today, degrowth as a field lacks what philosophers would consider to be a complete distributive theory of justice. Even though the word "justice" abounds in the degrowth literature, I have yet not seen a single commitment to a specific theory. To be complete, and a fortiori operational, a distributive theory of justice must include three elements: *What* is the thing that should be justly or unjustly distributed (what philosophers call the "currency" of justice, e.g. welfare, income, wealth, opportunity, jobs, or utility)? *Who* is concerned by rights and duties of justice (the recipients of justice, e.g. present humans, present and future humans, all living beings)? And *how* should the distribution proceed (the distributive rule of justice)?

Some degrowth authors have discussed the metric of justice: Muraca (2012) in favour of capabilities and Büchs and Koch (2019) for basic needs. As for the recipients of justice, the environmental arguments made by degrowthers often point to a responsibility towards future generations, but there has not yet been serious effort dedicated to clarify what this responsibility precisely entails. At last comes the distributive rule of justice. Here, most authors make general appeal to "equality," although again without committing to a precise definition. The word "sufficiency" is common currency in the degrowth literature but only used in a general sense, often as a demand-focused alternative to the supply-side concept of efficiency and with no reference to specific sufficientarian theories of distributive justice.

I build the principle in three steps. First, I argue that degrowth should focus on fundamental human needs. Second, I make the case that present generations hold duties of

[1] The approach in this principle is quite different from *Chapter 4: Reducing inequality*. In Chapter 1, the only normative statement I made was that equality was more desirable than inequality. While this suffices for studying the relation between economic growth and economic equality, it leaves several questions unanswered dealing with which level of (in)equality is much desirable and why. This part provides an answer to these questions.

distributive justice towards future generations. Third, I posit that an understanding of sufficiency with lower and upper boundaries as well as decent levels of inequality is the most adequate distributive rule of justice for degrowth.

Step 1: capabilities and fundamental human needs

Equality yes, but equality of what? What is the thing that should be equitably distributed in society? In philosophy, one speaks of the *metric* or *currency* of justice. There have been three popular answers to this question: resources, welfare, and capabilities. I intend to show that it is the latter that is most adequate for the understanding of distributive justice that characterises degrowth.

The popular understanding of just distribution is associated to resources, be it money, land, dwellings, cars and other objects. Resourcism is neutral about what constitutes the good life, what matters is that people possess the resources necessary for achieving whatever they desire. From the perspective of degrowth, this materialistic vision of justice is problematic. It focuses precisely on the thing degrowth argues should be reduced, giving the impression that degrowth is a frontal attack on justice itself.[1]

Welfarism assesses the good life in terms of subjective utility. Welfare can mean utility or preference-satisfaction, happiness, or subjective well-being. From a welfarist perspective, it does not matter how much resources people have as long as welfare is justly distributed in society. In Chapter 7, I will argue that happiness should not be treated as a criterion of success for degrowth. This argument concurs with Sen (1999): preferences adapt to certain situations, which means that someone may just accept their situation and content themselves with what they have (e.g. the overworked, unpaid intern feels happy just to be "employed").

In the degrowth literature, Muraca (2012) is one of the few authors to have justified a choice of metric of justice. Criticising both welfarism and resourcism, she opts for Amartya Sen's Capability Approach. And indeed, the notion of capabilities fits nicely with the Principle of Autonomy. While I agree with her analysis, I would go one step further and argue that the capability approach could be complemented with Manfred Max-Neef's (1932-2019) theory of Fundamental Human Needs.

In the 1980s, Indian economist Amartya Sen invented a new way of thinking about justice, which became known as the Capability Approach (reference text for this theory is Sen, 1999). When evaluating well-being, this approach focuses on what people are effectively capable of being and doing. Sen calls these state of being and doing *functionings*, which he distinguishes from the resources employed to achieve them. Someone's capability is the set of functionings that is available to them. For Sen, the poor are those deprived from the capability of living the life they considered desirable, they lack the ability to use resources to achieve objectives they themselves consider to be important.

And yet, Sen remains silent as to which capabilities should be deemed basic, arguing that they should be democratically decided by each community. It is because of this absence concerning the recipients of justice as well as the lack of a distributive rule that Sen's approach cannot be considered a full theory of justice. A solution could be to invoke American

[1] This adds to other criticisms. For example, Sen (1999) criticises this approach by arguing that individuals can differ in their abilities to make valuable use of the same resources (e.g. equality in the distribution of books leaves those who do not know how to read disadvantaged). For Sen, the focus should not be on resources themselves, but on what can people make of them.

philosopher Martha Nussbaum's list of "Central Human Capabilities" comprising *life*; *bodily health*; *bodily integrity*; *senses*, *imagination*, and *thought*; *emotions*; *practical reason*; *affiliation*; *other species*; *play*; and *control over one's environment* (Nussbaum, 2011). Yet, I find Nussbaum's list both arbitrary and too narrow, which is why I decide to use another list of human needs that still fits with the capability approach.

In 1991, Chilean economist Manfred Max-Neef developed the Fundamental Human Needs taxonomy (reference text is Max-Neef, 1991). Taking the form of a matrix, human needs are organised along two categories: existential (*being*, *having*, *doing*, and *interacting*) and axiological (*subsistence, protection, affection, understanding, participation, creation, leisure, identity,* and *freedom*).

These needs are fundamental, which means that they apply to all cultures and in all historical periods. What differs in time and places are the choice of *satisfiers* which allow the satisfaction of a human need (e.g. a book is a satisfier for the need of understanding, but so could a radio show, or a story told by a friend). The difference between need, satisfier, and economic goods is crucial: "fundamental human needs are essential attributes related to human evolution; satisfiers are forms of Being, Having, Doing and Interaction, related to structures; and economic goods are objects related to particular historical moments" (Max-Neef, 1991: 204).[1]

Like Sen, Max-Neef defines poverty – or one should say *poverties* – as deprivation from the ability to satisfy a fundamental human need (poverty *of* subsistence, poverty *of* protection etc.), these poverties then leading to *pathologies* (e.g. unemployment, violence, exploitation). The opposite of poverty would then be *potential* as the ability (Sen would say *capability*) to satisfy one's fundamental human needs in an adequate manner.

Step 2: Present and future humans as the recipients of justice

To whom do we have duties of justice? The question of the recipients delimits the bounds of justice. This principle affirms that present generations have duties of justice toward their contemporaries as well as toward future people. This is similar to Wright's (2013: 12) "sustainability principle": "Future generations should have access to the social and material conditions to live flourishing lives at least at the same level as the present generation." From this perspective, it would be considered unjust for present generations to willingly decide to extinct themselves in a thermodynamic firework.

What about past generations? Excluding people who are no longer existing from duties of justice risks undermining responsibility towards past wrongs, for example slavery or climate change. This is *restorative justice*, which consists in "involv[ing], to the extent possible, those who have a stake in a specific offense to collectively identify and address harms, needs, and obligations, in order to heal and put things as right as possible" (Zehr, 2002: 37).

In the way I envision justice, responsibilities towards present generations should take into account historical responsibilities for those are the reasons why certain people are

[1] "Satisfiers are not the available economic goods. They are related, instead, to everything which, by virtue of representing forms of Being, Having, Doing, and Interaction, contributes to the actualization of human needs. Satisfiers may include, among other things, forms of organization, political structures, social practices, subjective conditions, values and norms, spaces, contexts, modes, types of behaviour and attitudes, all of which are in permanent state of tension between consolidation and change" (Max-Neef, 1991: 201).

vulnerable today. Acknowledging that there is such a thing as a climate debt addresses the relative vulnerability of all the countries who have not industrialised and/or who are negatively impacted by global warming today.

This is not only a material issue. Acknowledging past patterns of domination can restore cultural self-esteem for communities whose traumatic legacy is presently hindering their autonomy. If the world was today an ideally equal place, there would be no need for compensation regarding past wrongs – even though there is still value in acknowledging past wrongs, and apologising for it, and when appropriate, compensating them.

Step 3: Sufficientarianism and limitarianism as the distributive rules of justice

Now that we know *what* to distribute and to *whom*, how should we go about doing it? A distributive rule of justice justifies what should be an ideally just distribution. The most popular options are: egalitarianism, prioritarianism, desert, sufficientarianism, and limitarianism. Equalitarianism can be of many types, but the core idea is that everybody should have the same. Prioritarianism gives priority to the ones who are most disadvantaged today. Desert is to each according to what they deserve. Sufficientarianism[1] is the idea that everybody should have enough and limitarianism the one that nobody should have too much. In this principle, I argue that it is the two latter that should matter most to degrowth.

No degrowther would disagree with the following claim: everyone should be capable of satisfying their fundamental human needs. This sufficientarian position is a kind of minimum approach to justice for that it does not specify what is to be done after the threshold is reached, nor does it discriminate between different ways of bringing people above the threshold. What matters is that people have enough. In the context of degrowth, however, one cannot be satisfied with only a minimum threshold beyond which people could be said to have enough to avoid deprivation, and it is also necessary to define maximum thresholds, especially when it comes to the consumption of natural resources and their impact on the environment.

This min-max approach is common in growth-critical texts,[2] perhaps most famously in Raworth's (2012) doughnut whose inner and outer boundaries delimit a "safe and just space for humanity." If the satisfaction of needs was a form of *positive* sufficiency (enough as not too little), the prevention of environmental harms requires a form of *negative* sufficiency (enough as not too much).

To formalise that insight, I draw upon the concept of limitarianism as developed by Robeyns (2016). If sufficientarianism is the idea that everyone should have enough, limitarianism posits that no one should get too much, or more precisely that "it is not morally permissible to be situated above a certain threshold in the distribution of a desirable good"

[1] Frankfurt (1987: 21) calls it "the doctrine of sufficiency": "With respect to the distribution of economic assets, what is important from the point of view of morality is not that everyone should have the same but that each should have enough. If everyone had enough, it would be of no moral consequence whether some had more than others."

[2] A few examples: the Cocoyoc Declaration's (1975) focus on both floors and ceilings, Kapp's (1965) "development corridor" between ecological maxima and existential minima, Daly's (1977) maximum ecological boundary and minimum ethical boundary, *Les Amis de la Terre's* (2011) ecological space, Raworth's (2012) doughnut with the "safe and just space for humanity" and its inner and outer boundaries, Spangenberg's (2014) sustainable consumption between floors and ceilings, to Lepesant's (2017) appeal to a social-ecological space with lower and upper limits, or Di Giulio and Fuchs's (2014) "sustainable consumption corridors." This is also the strategy of "contraction and convergence" developed by the Global Commons Institute according to which affluent countries should contract their emissions so that world emission per capita can converge to a level where all can meet their needs without disrupting climate stability.

(Robeyns, 2016: 4). The author offers two arguments in defence of such stance. A *democratic argument* saying that because the richest can turn money into political power (campaign donations, gatekeeping, control of media outlets, lobbying, corporate blackmail etc.), then being too rich threatens democracy. And an *argument from unmet urgent needs* stating that the holding of surplus money is morally problematic in a world with extreme poverty, high levels of inequality, and needs for urgent collective action problems.

Robeyns (2016) makes a case of limitarianism of financial resources.[1] But the health of the biosphere cannot be measured in money and requires indicators of its own. This is the problem pointed out by Spengler (2016): How to articulate two thresholds that are different in nature within one single theory of distributive justice?

A first option would be to express the two thresholds in the same unit. This is Holland's (2015) choice in developing "capability ceilings." In the same way that Sen and Nussbaum define basic capabilities at the bottom of the distribution, Holland does the same for the top by proposing "limitations on the choice to pursue certain individual actions that are justifiable when those actions can have or significantly contribute to the effect of undermining another person's minimum threshold of capability provision and protection" (ibid. 142). So for example, if having access to enough quality food is a capability floor, then using biofuels may be morally problematic if its production comes to compete with foodstuff. While this is analytically stronger, the complexity of such calculus makes the framework hardly operational.

An alternative, simpler option would be to have several currencies of justice (Spengler, 2016). For example, the minimum threshold could concern fundamental human needs at the individual level, whereas the maximum threshold concerns environmental pressures, which has local, regional, and global dimensions.

I have already set the Fundamental Human Needs as a minimum, but what should be its environmental counterpart? This question is complex and not many frameworks exist to fit such a task – e.g. Raworth (2012) takes the nine planetary boundaries of Rockström et al. (2009). At this point, I find ecological footprint to be good enough to act as an upper boundary for uses of nature because it gives an intuitively grasped and widely used measure, even if the indicator knows some methodological weaknesses (Galli et al., 2016).

But let us be careful. It would be a mistake to think that ecological maxima are somehow more objective than social minima. On the contrary, the 1.5°C target of global warming is itself socially constructed, and so is the rate of biodiversity loss that one finds acceptable, along with every single other indicator of environmental change. Upper thresholds are "ecological" for that their concerns ecological functions, but these are seen from the perspective of human needs satisfaction (even though human needs may include the satisfaction of non-human needs), and so are as socially constructed as social threshold.

With this limitarian twist, sufficiency targets both excessive poverty and excessive affluence with a different treatment for the haves-too-much and the have-nots-enough. This leaves us with three profiles: those who do not have enough (below minimum), those who have and consume too much (above maximum), and those who have enough without consuming too much (between minimum and maximum). A first rule is that everyone should have their

[1] Robeyns (2016) uses a metric of affluence she calls "the power of material resources," which is basically a sum of income minus expenses multiplied by a household equivalence scale and a conversion factor to account for people's ability to turn income into functionings. This allows to calculate a "riches line."

fundamental human needs met[1] and that no-one should have money or over-use natural resources in a way that threaten the integrity of ecosystems and the capabilities of other human beings.[2] For simplicity, I will refer to these as the *social minimum* and the *ecological maximum*.

CARE

Is the way I satisfy my needs harming or benefiting others? Is the economy a vector of pro-social or anti-social behaviours? How to provide for myself and my close ones using a share of resources that is considered fair? I propose an ethics of care to inform acts of provisioning in a degrowth society. Following the Principle of Care, *an action is fair if it involves more solidarity than exploitation and therefore leads to an overall reduction in vulnerabilities*.

Central to this principle is the opposition between solidarity and exploitation. Solidarity means protecting an entity that is vulnerable and to be prepared to do so at a personal cost. On the contrary, exploiting means using an entity's vulnerability to further one's own interest. Instead of trying to use the vulnerability of others for your own benefit and at their detriment, solidarity resorbs the vulnerability at your own detriment. For example, taking time to help an elder to cross the street (solidarity) versus trying to scam them (exploitation). In sum, exploitation is a perfect form of selfish plunder and solidarity a perfect form of selfless benevolence (of course, and as we will soon see, there are many possible situations in between).

There are two understanding of the word "care" in the degrowth literature. Certain authors see "care activities" as a category of reproductive tasks such as elderly care, healthcare, child care, or land care (caring *for* as an activity). Others rather understand it as the logic of prudence and solicitude characteristic of these spheres (caring *about* as an attitude).

Tronto (2009) and her "ethic of care" is a good example of the latter stance, even though it has not yet been attached to degrowth. Following her, I posit care as a general moral principle that should apply to all economic activities, meaning that forms of exploitation and violence should be minimised in all acts of provision alike. Bottom line: all economic activities should be care-oriented.[3] This means that the economy should be framed by a broader set of social and ecological concerns ensuring the protection and regeneration of all human and nonhuman beings,[4] and especially the most vulnerable ones.

I divide care into two components: care for people (solidarity) and care for nature (stewardship). The order is not random; I do conceptualise stewardship as an extended form of

[1] Heindl and Kanschik (2016) worry that the social minimum could be above the ecological maximum, which would create a trade-off between social and environmental justice. If so, this is an efficiency problem, which demands better tools and institutions as to increase the ability of certain objects to serve as need satisfiers. This is perhaps the case for communities in post-disaster recoveries or other emergency humanitarian situations. Excluding these exceptional events, and even thinking about most destitute countries, I cannot think of a concrete example of such a situation. What seems to be more relevant today is the opposite, namely an ecological maximum that is above the consumption minimum, leaving a space for a socially and environmentally just life.

[2] From such perspective, it is only the lower threshold that can be crossed without causing further injustice (e.g. protestors fasting for a hunger strike versus athlete over-eating for bodybuilding).

[3] This is close from what Ruzzene (2015: 86) calls "Care Economies" for the extension of the concept of care to "taking care of (or responsibility for)" that should, according to the author, frame all economic activities. Other similar concepts include Fraser's (1994) "anti-exploitation principle" and Gandhi's principle of non-violence.

[4] In Chapter 3, I pointed to all the hidden factors of production without which this dissertation would have never existed. Concern here has to do with, not only acknowledgement, but also sustenance or maintenance. I acknowledge the things that have contributed to me writing the thesis, but, in a spirit of care, I must also make sure these things have not been degraded by the process of me writing the dissertation.

solidarity and not the opposite. The goal should not be to prevent the exploitation of people or the one of nature, but to prevent exploitation of all kinds.[1]

I build the principle in five steps. I start by defining what vulnerability is and making the difference between empathy and compassion. Second, I define exploitation as one possible course of action one may take in relation to a vulnerable other. In step three, I define solidarity as the opposite of exploitation. In step four, I argue that stewardship should be considered an extended form of solidarity towards non-human others. At last, I bring these four notions together into a single rule of ethics (the Principle of Care).

Step 1: vulnerability, empathy, and compassion

To either help or take advantage of someone presupposes that someone is in a vulnerable state. The Oxford dictionary defines vulnerability as "the quality or state of being exposed to the possibility of being attacked or harmed, either physically or emotionally." Some philosophers argue that vulnerability is a constitutive feature of the human condition (e.g. Butler, 2004; Fineman, 2008). And indeed, we are all somehow vulnerable to an array of dangers from hunger and sleep deprivation to physical violence and solitude. While I would posit degrowth to be in complete ontological agreement with this point, this "inherent vulnerability" is rather a concern for distributive justice; in this principle, I shall only deal with the type of vulnerability that is "situational" (Mackenzie et al., 2012).

If we are all potentially vulnerable, some of us are better shielded against risks. This has to do with the context these persons or groups find themselves in, for example, a community after a natural disaster, dependent elders, or precarious workers during a recession. One could say these agents are relatively defenceless, meaning that their ability to protect their interest against the ones of others is low. A being is vulnerable if in a position of disadvantage within a group, or one could also say at the bottom of a power relation. Put another way, hierarchy necessarily involves vulnerability on the part on those who are dominated, and so it is hierarchies that create the possibility for exploitation.

Anything that is alive, not only humans, can be vulnerable (fauna and flora). Even though a grizzly bear would not find itself particularly vulnerable in a bare-handed encounter with a human, it is nonetheless vulnerable if its life is put at risk (e.g. directly by hunters or indirectly through the destruction of its natural habitat). Going further, a whole ecosystem could also be considered vulnerable when its integrity is in jeopardy, such as a declining fishery, a receding forest, or even a malfunctioning climate. In the end, anything with a lack of autonomy, dignity, integrity, or all of them at once, is susceptible to be vulnerable.

As human beings, we have the ability to sense the vulnerability of others through the reading of their emotions. This ability has been interpreted in many ways. Here I understand *empathy* in its most basic dictionary definition, namely as "the ability to understand and share the feelings of another" (Oxford dictionary). Being empathetic means to be able to gather data about the experiences and affects of others (Kohut, 1977).

[1] The split in two categories is merely expositional for that the logic of care is precisely the same. In fact, one reason for elaborating one single, overarching concept of care was to overcome the division of human and nature, itself a source of exploitation. Here, I assume that the exploitation of nature is a sub-category of the exploitation of humans, and so that it is only by putting an end to the exploitation of some over others than one can end the exploitation of all against nature.

Sympathy or *compassion* (I understand them as synonyms) is more specific: it is an empathetic experience of another's suffering that leaves the observer affected. One could say that to have compassion is to have empathy for someone we care for. It is, in other words, a form of empathetic caring. It is therefore compassion, and not only empathy, that motivates solidarity. I can be empathetic of someone else's vulnerability but still decide to exploit them. On the other hand, acting against a sentiment of compassion would necessarily lead to personal alienation (i.e. acting against myself).

Compassion is one defining feature of social communities. A community is the identification of an affective "we," an inner sphere of concerns that applies to a certain group of beings; consequently, certain human and non-human "others" are excluded from this sphere. "We" as a family includes my partners and my children but excludes my neighbours; "we" as inhabitants of Stockholm broadens the sphere but still excludes the inhabitants of Uppsala; "we" as members of the human species excludes platypus and crocodiles; and so on. A community reduces the empathetic distance between the members of the community by considering the other members as partners, comrades, neighbours, or citizens, or fellow Earthlings. A community, by definition, is affectively bound by sympathy.

Step 2: defining exploitation

There is no scholarly agreement on what exploitation is. Liberal thinkers treat it as a wrong committed by discrete individuals in specific relationships. Marxists point to the appropriation without remuneration by the capitalists of surplus value created by workers. Neoliberals decry welfare-receiving indolent citizens for exploiting hardworking tax-payers. Feminists argue that exploitation follows gender and racial hierarchies, and falls predominantly on women and racial minorities. For post-colonial scholars, patterns of unequal exchange by means of unfair prices on global markets disguise imperial exploitation of the periphery by the core.

What is common to all these interpretations is a basic situation where someone takes unfair advantage of someone else. Put more formally: a person or a group X uses their power advantage over another entity Y to obtain something valuable that Y is forced to sacrifice.[1] The dominant *exploiter* (X) coerces or manipulates the subordinate *exploited* (Y) to seize something that is scarce and considered valuable by both parties. In other words: exploitation is a social relation where one party abuses the misfortune of another party. It does not in itself create a situation of domination but acts on it, which then perpetuates its existence.

To understand exploitation, I draw upon Mckeown's (2016: 158) definition: "*structural exploitation refers to the forced transfer of the productive powers of groups positioned as socially inferior to the advantage of groups positioned as socially superior*." I do this for several reasons. It emphasises the fact that exploitation has to do with *productive powers*, is *structural*, *forced*, and *intersectional*, and this definition is easily extendable to nature. Let us go through each of these features in a little more detail.

Exploitation is *structural*. The source of exploitation is to be found, not in the rationalities of individual agents, but in the power relations between groups of agents. When I buy a pair of sock at H&M, I do not do so with the intention of degrading factory workers and

[1] Here, I am re-phrasing Shelby (2002: 393), which I found unnecessarily complicated: "(a) Y is forced to make a sacrifice which results in benefit for X; and (b) X obtains this benefit by means of an advantage in power that X has over Y."

water sources in Myanmar, nor do I, as the consumer, bear the responsibility for such consequences. The same logic of deflecting responsibility occurs down the supply chain: the exploitation is not the fault of the H&M salesperson in Stockholm, of the drivers of the freight trucks and boats, of the factory director in Yangon, or of the workers themselves. Every node in the chain is just performing a small, seemingly benign, task.

After Arendt (1963), one may call it an *economic* banality of evil. I use such a vivid term to stress a crucial point: exploitation is institutionalised (that is depersonalised), it is an emerging property of a specific mode of organisation.

Exploitation is *intersectional*. In order to define an overarching principle of social-ecological exploitation, one should not only consider class, race, gender, or specie, but all of them at once. The source of the disadvantage does not matter here, nor does the specific nature of the exploitative act, exploitation is the relation. Although Mckeown's definition was only meant to cover social exploitation, it is phrased in a way that permits the inclusion of nonhuman others. Ecosystem services can simply be treated as a *group* whose *productive powers* can be *forcefully transferred* to another group (humans) because nature is *positioned as socially inferior* to humans (anthropocentrism). In that sense, *appropriation* of nature is a form of *exploitation*.

Exploitation is *forced* in the sense of not being autonomously decided. Exploitation can happen via force (e.g. slavery, Feudalism, peonage, imprisonment), indoctrination (e.g. patriarchy leading to unfair division of care tasks, wage-labour), manipulation (e.g. advertisement), or deceit (e.g. scams). It is, however, necessarily coercive. In some situation, someone can find it advantageous to be exploited. Consider for example compensation through a wage – "the misery of being exploited by capitalists is nothing compared to the misery of not being exploited at all" says Robinson (1962: 45).[1] Yet, because I hold exploitation to be an objective – and not subjective – phenomenon, beneficial or agreeable exploitation is exploitation nonetheless (I justify this choice in the next paragraph). As for the exploitation of non-human others, it is then always forced, as only in the utopian land of Cokaygne[2] do pigs roast themselves to be eaten.

I want to add an assumption that is not present in Mckeown's definition, namely that exploitation involves *degradation*. Instead of thinking of exploitation as an unequitable sharing of wealth that has just been created (the unfair split of a loot), one should view it as a deterioration – sometime even annihilation – of the exploitee's ability to further produce wealth. It is in that sense that one can speak of a *cost*: exploitation worsens vulnerability. The tired, depressed, and harried worker is losing their ability to employ their creativity for purposes outside of the work schedule; the housewife oppressed by an abusive husband is being robbed of her trust for others, self-esteem, and integrity; the depleted fish populations, the polluted water, or the soil ploughed barren have lost their ability to function and produce services. The overworked employee or the over-indebted farmer having committed suicide and the desertified fields are cases of exploitation to annihilation. This aspect requires an understanding of

[1] During my bachelor studies I have worked in three different McDonald's restaurants. I would spend my breaks in between classes sweating over a deep fryer for less than €10 an hour. I called myself lucky because, at least, I had a job. The work was unpleasant and degrading (insults from customers where not uncommon) but not an unbearable toil. It is only now that I fully realise how alienating it felt to be lectured about the glorified benefits of a market economy (I studied economics) and having to sacrifice precious learning time in a debilitating, nature-wrecking job.

[2] The land of Cockayne is a medieval utopia depicting a place of abundance.

"productive powers"[1] in a broader sense, namely as the ability of one human or non-human being to further produce different forms of what they consider to be wealth.

Defined as such, exploitation is *wrong*. I stand by a normative, and not technical, definition of exploitation. Exploitation is not a phenomenon that is sometimes good or sometime bad based on intentions, context, and consequences. From a degrowth perspective, exploitation is deontologically wrong because it impinges on the two other principles of sufficiency and autonomy. Because exploitation is *degradation*, it necessarily reinforces itself by further reducing sufficiency and autonomy for the disadvantaged party. This is why I contend that there is no such thing as "over-exploitation." Exploitation is already in itself the extreme end of the spectrum. There is no decent or acceptable level of exploitation, even though some forms of exploitation are, of course, morally worse than others.

Step 3: defining solidarity as the opposite of exploitation

Solidarity is trickier to define than exploitation. The term carries a panoply of denotations: Christian brotherly love; the *fraternité* of the French revolution; the sociality of the early sociologists (Comte and Durkheim); community harmony for utopian socialists (Fourier); worker unity for Marxists and Leninists; gifts and reciprocity for anthropologists (Malinowski, Lévi-Strauss, Mauss, Sahlins); rational utility maximisation for neoclassical economists; altruistic or pro-social behaviour for social psychologists.[2] And the act takes a variety of forms: blood giving and organ donations; raising a child or caring for a sick relative; environmentalist refusing to fly; support among fascist protestors; the welfare State and insurance schemes; passers-by interrupting catcallers; or people risking their life rescuing others. Solidarity requires little explanation for that it resonates with the common experience of being human.

In the literature, solidarity is defined either objectively as a practice or normatively as a value. Wilde (2013: 1) provides a good example of the latter: "a feeling of sympathy shared by subjects within and between groups, impelling supportive action and pursuing social inclusion." Other definitions focus on the *actions* motivated by the sentiment, e.g. "acts that purposefully benefits another person at a cost for the agent, without any guarantee of an equivalent return" (de Beer, 2017: 3). In the present work, I side with the second acceptation and understand solidarity as an action. If solidarity is the opposite of exploitation, it is then "*the transfer of the productive powers of groups positioned as socially superior to the advantage of groups positioned as socially inferior*."[3]

Positing solidarity as the inverse of exploitation means I must ascribe them similar ontological and normative features. Just like exploitation, solidarity is *structural* and *intersectional*; and as its opposite, it is *voluntary* for the giver and *restorative* for the receiver. Let us again detail each of these features one by one.

[1] The term "productive power" I borrow from MacPherson (1973), who uses it in reference to both *labour power*, which according to Marx is anything that produces use values, and *developmental power*, which refers to one's ability to develop as an autonomous agent (Mckeown, 2016: 174).

[2] Solidarity is the helping hand or the reassuring look of a stranger in a distressing situation, the encouraging words of a friend, the assistance of someone who takes the time and effort to take care of someone else. Solidarity is the compassion that has been holding the barricades of any social struggle in the history of mankind. And solidarity is that duty to protect the vulnerable that is breached in a situation of exploitation.

[3] I had to remove the "forced," which fits well for the case of exploitation but does not for solidarity.

Solidarity is a value embroiled not only in people (mentalities, e.g. identities) but also in between them (ideologies, e.g. laws, customs), that is, in the *structure* of society. Just like exploitation is not the personal deviance of isolated sociopaths, solidarity should not be considered as the virtue of Good Samaritans. Instead, solidarity (and exploitation) are systemic features that exist in institutions. For example, the welfare State enables a form of solidarity that exists beyond individuals, just like the transnational corporation enables a form of exploitation that also exists beyond individuals.

Solidarity is *intersectional* for that it can occur across any power unbalances, let it be on the count of class, race, gender, physical abilities, age, or specie. Any vulnerability can serve as a motivation for an act of solidarity, and the origin of that vulnerability can be manifold.

Broadly defined, solidarity can be *forced* (e.g. paying taxes to the State, abiding to the duty to rescue in French law). Here, however, I am only concerned with *voluntary* forms of solidarity (one could also say *autonomous*). Voluntary forms of solidarity can be individual (helping someone out of one's own will and initiative) but also collective (helping someone as part of a social solidarity scheme one has joined out of one's own will and initiative).

Solidarity is also *restorative* in that it regenerates the productive power of the vulnerable entity. Productive power should here be understood in relative terms. Giving my seat to an elder in the train does not restore their physical ability per se, but it ensures their comfortable seating during a train ride, making them relatively more vigorous than they would have been otherwise. Whereas exploitation harms, solidarity mends.

In terms of ethos, and because I decided to define exploitation normatively, I must now again define its opposite in an equally normative manner. From a deontological perspective, solidarity is right. From a consequentialist perspective, however, solidarity is not something good in itself as individuals and groups can feel and practice solidarity towards the achievement of nefarious objectives (e.g. mutual support among terrorists, peer-sharing of paedophiliac content). In the context of the present work, I can be satisfied with a deontological definition of solidarity only because I rely on the two other values of sufficiency and autonomy.

To be clear: there is a difference between *solidarity* and other associated terms such as *responsibility*, *charity*, *altruism*, *reciprocity*, and *social capital* (Prainsack and Buyx, 2011). Unlike *responsibility*, solidarity is voluntary and so does not entail sanctions if breached. Solidarity is a relation between equals whereas *charity* is an asymmetric redistribution from privileged to less privileged. (By definition, there is no *charity* in a community where everybody is equal – yet, there can be *solidarity*.) *Reciprocity* is different because it carries the expectation of a counter-gift – remember the "without any guarantee of an equivalent return" in de Beer's (2017: 3) definition mentioned above. *Social capital* also carries the expectation of something being produced, which, beyond being problematic in the context of this dissertation, also contradicts the pure selflessness of solidarity. Finally, solidarity necessarily involves cooperation, but the this is not true in the reverse (e.g. two people cooperating in their mutual benefit is not solidarity).[1]

[1] It would be too simplistic to associate exploitation with *competition* and solidarity with *cooperation*. Competition can be fair if no one starts with a particular vulnerability or advantage (e.g. drug testing at the Olympic games). Besides, a perfectly fair competition among some can lead to the exploitation of others (e.g. all the overworked volunteers during presidential campaigns), just as much as cooperation among some can lead to the exploitation of others (e.g. a group of people collaborating within a firm to sell bogus health insurance to elders).

Step 4: extending solidarity to nonhumans with the concept of stewardship

The claim I am about to make is that solidarity should, to a certain extent, also apply to non-humans. In a way, this is already the case. It is common for people to treat their pets like family; some people go great lengths to raise funds and awareness about sharks, rhinoceros, or pandas; others go vegan out of a sympathy for animals in general, to whom they grant the right not to be eaten; and certain communities even ascribe rights to whole ecosystems (e.g. Mount Everest for the Sherpa, the Whanganui river for the Iwi, or the rainforest for the Yanomami). All of these examples are cases of solidarity between humans and non-humans.

This mentality and attitude has been given many names: "ecological conscience" (Leopold, 1949), "deep ecological consciousness" (Fox, 1984), "ecological citizenship" (Light, 2005), or "ecological rationality" (Princen, 2005). In this principle, I have decided to call this extension of solidarity to nonhuman realms *stewardship*. Whereas *solidarity* was about how humans interrelate with each other, *stewardship* is about how humans interrelate with non-humans. There exist at least four different understandings of the term stewardship: as ethic, motivation, action, and outcome (Peçanha Enqvist et al., 2018).[1] In order to match my definition of exploitation and solidarity, I only understand it as an action and an outcome, that is a practice engaged by humans that results in *a transfer of productive powers from humans to the advantage of a nonhuman entity*. As for the ethic and the motivation, I will call it *ecological sympathy* (even though any of the terms above could be used as a synonym).

A robust theoretical starting point for stewardship is Aldo Leopold's (1887-1948) *Land Ethic* (1949). For Leopold, taking care of nature is an extension of taking care of other human beings; it is "an extension of the social conscience from people to land" (ibid.). It relies on the same notion of extended community that is key to the South American *buen vivir*, enlarging "the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land" (ibid.). It also requires the development of an ecological sympathy: "we can be ethical only in relation to something we can see, feel, understand, love, or otherwise have faith in" (ibid).

This "ecological conscience" changes the role of humans in their relation with nature, "from conqueror of the land-community to plain member and citizen of it," to a "biotic citizen" (ibid.). The outcome of such a mentality is health, or what we would today call ecological sustainability. Leopold develops a land ethic and so understands stewardship as more than an action. At this point in my argument, stewardship (and solidarity) is only a course of action, and I will return to the ethical issue in the next and final step when I specify which rule should inform acts of solidarity.

But before this, I must put boundaries to my extension of solidarity to the natural world. I still posit degrowth as an anthropocentric philosophy and does not go as far as deep ecology. My claim is that stewardship, as a careful and caring consideration of other lifeforms, ultimately serves the purpose of humans. I therefore reject the biocentric egalitarianism of deep ecology

[1] As an ethic, stewardship implies "moral guidelines, virtues, or philosophical principles that inform or shape human relations with the environment" (Peçanha Enqvist et al., 2018). As a motivation, it implies "attitudes, traits, preferences, and predispositions that make people inclined to engage in pro-environmental or sustainable behaviors." As an action, it is "a kind of activity, practice, or initiative engaged in by particular actors, often – but not always – intended to achieve a perceived environmental benefit." As an outcome, it refers to "the pursuit or achievement of a desirable set of results or consequences."

(all organisms have equal intrinsic value)[1] but I partly accept its metaphysical holism (no strict division between nature and culture). In my judgment, this middle-way is sufficient for the task at hand, namely to put an end to an unsustainable exploitation of nature.

I consider the granting of intrinsic rights to nonhuman others valuable (the ultimate act of anti-utilitarianism), not only for the entity being granted rights, but for an array of peripheral human practices that will be positively affected by this extended form of solidarity. In other words, considering nature as a moral subject is an improvement of our sense of morality which can then be applied to humans. When environmentalists campaign to save the pandas, I consider the will to save a nonhuman other to be as – if not more – valuable as the pandas themselves.

Step 5: articulating solidarity and exploitation in a principle of care

I have defined solidarity and exploitation as the two ends of a spectrum of human interactions. In the end, I am not making a plea for generalising either of them, nor the extreme solidarity of nuns neither the uncompromising stewardship of deep ecologists.[2] The task at hand is to devise a set of moral principles to inform provisioning that is both moral and operational. By operational, I mean that one should still be able to eat other lifeforms and pass people in the streets without feeling compelled to devote one's afternoon to listening to their problems. People must be able to satisfy their needs one way or another.

This is where Tronto's (2009) "ethic of care" comes in. Tronto (2009: 103) defines care as "*a species activity that includes everything that we do to maintain, continue, and repair our 'world' so that we can live in it as well as possible*." For her, care is both an activity and a disposition. As an activity or practice, care consists of *caring about* (noticing an unmet need), *taking care of* (taking responsibility for meeting the need), *care-giving* (meeting the need), and *care-receiving* (the need being met). As an ethic, care consists of four elements: *attentiveness* (to be able to notice unmet needs), *responsibility* (to commit in meeting them), *competence* (to be able to meet them), and *responsiveness* (for the vulnerable to respond to the care). Care has a strong solidarity aspect for that it takes the need of a vulnerable other as a starting point for action.

A more fitting way of seeing this may be to consider solidarity and stewardship the defaults modes of thinking and behaviour from which deviation is possible and sometimes even desirable. Whether that deviation is possible or desirable can only be decided in light of the two values of sufficiency and autonomy. Exploitation always diminishes equality, and that starting point is sufficient to argue that it is therefore wrong. In contrast, caring for those whose needs remain unmet contribute to goals of sufficiency. Autonomy on its own is not of any help, for that one could autonomously – and antipathetically – decide to exploit others.

In the end, the concept of care works for the purpose of this thesis. Today, what matters is to change a status-quo that is the reverse of what I have just described: acts of care are depicted as exceptional, while the instrumental mis-use and over-use of human and nonhuman

[1] This is the opening point of Naess and Sessions' (1984) eight-point platform of deep ecology: "the well-being and flourishing of human and nonhuman life on Earth have value in themselves (synonyms: intrinsic value, inherent worth). These values are independent of the usefulness of the non-human world for human purposes."

[2] A good example of that uncompromising stewardship is Leopold's (1949) famous aphorism: "a thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."

others have settled into an expected common sense. Even though a society of radical solidarity might not be desirable in its entirety, it is towards that end that we ought to be marching.

These three values provide a moral frame to guide a degrowth transition towards the building of a society with autonomy, sufficiency, and care. Degrowth is thus about minimising (1) domination (and thus discrimination), (2) excess and deprivation (and thus inequality), and (3) as well as exploitation (and thus violence).

Each value is independent. Sufficiency can be achieved without autonomy, for example in an eco-dictatorship where redistribution occurs via impersonal, forced bureaucracy. Same case for care; not only can it be forced onto people (underpaid nanny), but also without a sense of social justice (underpaid nanny only for rich households) and ecological limits (underpaid nanny in rich households with environment-intensive lifestyles). As for autonomy, one can easily imagine a democratic community willingly deciding to exploit (lack of care) and trespass both social and ecological boundaries (lack of sufficiency). This is why degrowth must embrace the three values together: *care* leading to *sufficiency* conducted in an *autonomous* manner.

The order in which I have chosen to present the principles is not random. Autonomy comes first for that it is the ability to define what the good life should be about. Autonomy is almost a meta-value because it determines the substance of the other ones, along with all other social rules derived from it. Sufficiency comes second and before care because if there is no inequality, then there is no vulnerability to exploit or resorb. Yet, the principles also affect each other on the way up: no autonomy and democracy in an unequal world, and no sufficiency without care.

Degrowth principles

What would the economy of a degrowth society look like? All communities must organise the provision of the resources necessary to satisfy their needs. These acts do not happen randomly but are framed by devised rules and procedures, themselves derived from broader values. The task now at hand is to decide which mode of provision would best fit the three moral values of autonomy, sufficiency, and care. I will now draw an institutional map of economic life under a degrowth regime, or in other words, write down the rules of the economy game in a degrowth society.

This institutional map is structured in five continents, following the sequence of provision from extraction, production, allocation, consumption, to excretion. Whereas de-economisation describes a general trend of letting various non-economic concerns (in our case the three values) inform the process of provision as a whole, I will now specify what it actually entails for each provisioning activity. To render that exercise apprehensible and elegant, I will also summarise these insights into a list of principles (available at the end of the chapter).

And yet, it should be clear from the onset that the aim of this section is to highlight broad economic conditions, and not to envision the various details of day-to-day life in a degrowth society. An overly precise and contextual envisioning exercise would run the risk of generating unnecessary disagreements over particulars, which cannot – and, from the perspective of autonomy, should not – be decided upon in advance while discussing degrowth.

My approach is to carefully advance from broad values (autonomy, sufficiency, care) to narrower guidelines, but then leaving the actual, everyday implications up for imagination and political deliberation.

EXTRACTION

Extraction is a pivotal stage in the provisioning process as it materially preconditions all the other steps. Indeed, can only be produced, allocated, consumed, and excreted of what has previously been *extracted*.[1] Yet, it would be a mistake to think that it all starts with extraction. There is no extraction without attraction: because one would only extract something that is precious, extraction is contingent of what is perceived to be useful or desirable. Said differently, extraction occurs in the name of production and consumption.

In the anthropological understanding of the term, extraction has always occurred and, to a certain extent, all forms of life on Earth are effectively miners of natural resources (Bardi, 2015: 71). One can, however, extract without being *extractivist*. In Brazil, there are two words to describe the appropriation of resources from Nature: *extrativismo* describes the collecting of natural products from the forest by Amazonian hunter-gatherer communities[2] while *extractivismo* (with an extra "c") refers to the pillaging, pollution, and destruction of nature that is now widespread in the region and beyond. The extractivism degrowth opposes is the latter one: "the intensification of the massive exploitation of nature in all the forms it takes" (Bednik, 2016: 254, mt).

What is extractivism?

Historically, the expression "extractivism" emerged in South America in the voices of activists resisting the exploitation of Nature. The extractivist logic sees natural resources as valuable only when they can be sold as commodity (a tree becomes valuable when it is cut down; a fish when it is caught; or a crop when it is harvested). The truism that more money is always better (growthism) then translates into the systematic turning of nature into market products.

Murray (2015: 25, mt) describes it as "a particular economic model that locks a given country into a narrow dependency towards its 'exportations of nature,' but also, more broadly, a social and anthropological model […], which consists in seeing the world, nature (including ourselves) as 'resources' to be used for the capitalist production of exchange value for the purpose of accumulating material wealth and in a spirit of domination."

In only a few centuries, most human societies have shifted from an "organic economy" relying on renewable resources to a "mineral" one relying on deeper extraction of nature (Wrigley, 2016). The consensus on extractive trends is total: it is intensifying (Chapter 2). Fossil

[1] I use the word "extraction" in a neutral sense, without any association with force or violence. Drilling for oil, cutting trees, harvesting potatoes, fishing, and picking up berries are all forms of extraction, which can be done more or less respectfully. The term is close from the Marxian "appropriation," which is perhaps a better fit when talking about non-material forms of extraction/appropriation (e.g. time can be appropriated but hardly *extracted*). In the section, I understand extraction broadly, including both matter, energy, and time, and I locate it one step further than appropriation (one can only *extract* something that has previously been *appropriated*).

[2] Translating with the English "extraction" is perhaps misleading. From a *buen vivir* perspective, one could say that there cannot be *extraction* in the etymological sense of the term (from the Latin "*extrahere*," to draw out) because pieces of Nature are part of a whole that cannot be separated. The goal should rather be to ensure a harmonious coexistence where all human and non-human beings live in resonance with each other – a worldview captured by the Spanish concept of *cosmoconviviencia* (coexistence with the cosmos).

fuels, metals and minerals, timber, soya cultures and other monocultural crops such as banana, eucalyptus or palm trees, industrial fishing and aquaculture (e.g. shrimps and salmons), hydrological energy through dams,[1] solar and wind farms.[2] In addition to what is extracted and used is all the "unused extraction"[3] that happens on the side. Not only are volumes increasing but the diversity of extracted materials is also on the rise – the number of extracted metals was around 20 in the 1990s when it is about 60 today (Bednik, 2016: 113).

As I have already showed in Chapter 2, the extractivist relation with nature is not sustainable. The situation is the following: an increase in the absolute scarcity of a resource augments its price, which makes least accessible reserves more profitable, attracts investment, and leads to more of the extraction that was initially responsible for the scarcity, therefore creating a profit-led vicious circle of extraction. Besides, because the "lowest hanging" resources are usually extracted first, this cycle of extraction increases in intensity when it comes to social and environmental degradations (the *rising energy expenditure* argument).

Today, the extractivist system relies on a diversity of territories that specialise in extraction only. For production to constantly increase, the "commodity frontiers" (Moore, 2000) must geographically expand to find new resources to extract (e.g. exploitation of tar sands in Canada and shale gas in the United States or the burning of the Amazon rain forest in Brazil to make space for agriculture). Countries located at a commodity frontier are forced to shift their economies towards exports of unrefined raw material, often at great social and ecological costs for local communities (Gudynas, 2013). (The famous case of Nauru and its massive exports of phosphorous during the 20th century constitutes a perfect example of an extractivist economy.)

The extractivist discourse sees extraction as an opportunity to develop and grow. So-called "neoextractivist" governments (e.g. Correa in Ecuador, Chávez and Maduro in Venezuela, and Morales in Bolivia) pledge to use the revenues of extraction to finance social programmes, education, healthcare, and poverty eradication measures, usually by imposing regulations on foreign companies and sometime taking national control over extraction. In practice, however, extraction most often leads to impoverishment and abominable conflicts. In the case of high-income countries that considered themselves already "developed," extractivism is justified as a means to reach resource independence or to create employment and boost GDP (e.g. Sweden with wood and Norway with oil).

The choice to specialise in extraction is difficult to reverse. Harold Innis's (e.g. 1995) "staple theory" describes a situation where a subaltern economy is "primarised" when another dominant one constraints it to remain an exporter of raw materials – this unequal relation of power between North and South being the legacy of colonialization. The subaltern economy finds itself in a "staple trap" where they are unable to diversify their economic activities because they have invested all their productive capacities into extraction and must continue to export extracted raw materials to survive, which places them at the will of foreign interests.

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[1] Although hydrological power is often depicted as a "clean" energy, it involves a considerable number of social and environment side effects: deforestation, methane emissions, ecosystem disturbance and biodiversity loss, extraction of construction materials, and displacement of populations (Bednik, 2016: 137).

[2] Sersiron (2014: 53-54, mt) argues that wind power can today be considered a form of extractivism: "even if wind is a renewable energy, the available sites where windmills can be built and productive are not infinite."

[3] There are three ways of measuring extraction: *used extraction* concerns only the raw material being sold, *unused extraction* are the materials and energy that are used, displaced, or damaged in the process of extraction itself, and *total extraction* is these two together.

Export or perish[1] is the only choice left to those finding themselves at a commodity frontier involving natural resources. Innis's theory provides a critical perspective towards David Ricardo's (1817) theory of comparative advantage that states that both parties would benefit from such specialisation. It also explains the "resource curse" or why it is paradoxically the countries that richest in natural resources that are the poorest in terms of income per capita.

Another reason is offered by Sersiron (2014) who argues that public debts explain why developing countries are forced to extract. It may start with the imposition of an odious debt from colonial past, or with "large, useless, imposed megaprojects" or "white elephants" (e.g. dams, mines, harbours, roads and railways), many of them actually aiming to facilitate extractive activities and as such being encouraged by international organisations. Once a country is indebted, it is pressured by its creditors to export as much as possible in order to obtain foreign currency and to allow to pay back its debt. For Sersiron (2014: 88), this is "an organised increase of the public debt" for maintaining dominion over peripheral economies.

Post-extractivism: Sustainability, circularity, and resource sovereignty

The island of Nauru provides a telling example of what happens at the end of the extractivist story: no more resources, no more revenues, and a society in the doldrums. But not too fast. Extractivism should not be seen as the problem of exporting nations. To be extracted, a natural resource must first be made attractive in terms of prices. The prices are kept up by the demand of producers, which is itself partly determined by the demand of consumers, themselves often forced into consumption by advertisement and planned obsolescence. This is the economic banality of evil: exploitation is an emergent property of the system as whole.

Change thus requires a global effort. Sellers at the commodity frontier will be able to diversify their economy only if buyers simplify their production and consumption – and the two of them will probably require institutional intervention (e.g. via the State) in order to coordinate away from prisoner's dilemma. The response to unreasoned extraction is not only NIMBY (not in my backyard) but *ni ici ni ailleurs ni aujourd'hui ni demain* (neither here nor elsewhere neither today nor tomorrow) or NIABY (not in anyone's backyard).[2] If extractivism is an emergent property of the system, post-extractivism thus requires a different system. Let us now detail what this system would be about.

In biophysical terms, a sustainable economy cannot rely indefinitely on the extraction of non-renewable materials. As for renewable resources, they should be seen as assets to be borrowed and returned in a circular manner and at a pace set, not by the economy, but by Nature, and under the supervision of communities who are most embedded within local ecosystems.[3] These are Herman Daly's three conditions for sustainability (e.g. Daly, 1996: Ch. 4): (1) renewable resources should be extracted below their rate of replenishment; and (2) non-renewable resources should be extracted at a rate equal to the rate of development of renewable

[1] This was the motto of the Peruvian president Fernando Belaúnde Terry (1980-1985).
[2] *The Canadian Leap Manifesto* (2015) phrases it as such: "The new iron law of energy development must be: if you wouldn't want it in your backyard, then it doesn't belong in anyone's backyard."
[3] In the Frequently Asked Question section of *decrescita.it* (the website of the Italian *Associazione per la Decrescita*), the question "Do you intend to prohibit the exploitation of all natural resources?" is answered as such: "No, we think that withdrawals must respect the life cycles of the planet and preserve non-renewable resources" (Decrescita, 2019, mt).

substitutes – and (3) the generation of pollution should need exceed the assimilative capacity of ecosystems.

These rules of thumb are logical deductions from the philosophical principle of care, or more especially, stewardship. In practice, it requires extra-economic institutions such as resource caps (the "convivial rationing" of Szuba, 2017) to ensure that metabolic scale remains in proportion to its ecological supporting systems, bans to phase out to use of harmful substances and practices, and taxes to facilitate the transition to a more sustainable use of resources (I will describe these instruments in more details in Chapter 9: Stewardship of nature). Because the most sustainable extraction is the one that does not occur, the issue of sufficiency should have primacy over the one of efficiency.

One crucial aspect of sustainability is *circularity*. From a biophysical perspective, the process of provision in a degrowth society must necessarily be circular, in the sense Boulding's (1966) gave to the word in his "spaceship economy" analogy. The current "circular economy" discourse, however, is limited because it still commits to the goal of increasing output.[1] A more fitting framework is Arnsperger and Bourg's (2017) "permacircularity,"[2] which includes both the circularity of green growth and the frugality of degrowth.

This is what Assadourian (2018) calls the "spiral economy." Imagine an economy spiralling down towards a sustainable steady-state of resource use, essentially a cyclical economic metabolism (or to be precise, as-circular-as-possible) with a culture of permanence. Once committed to a sustainable scale, ideas of "zero waste" (Palmer, 2005), "cradle to cradle" (Braungart and McDonough, 2002), and "biomimicry" (Benyus, 1997) can contribute to the ideal of degrowth. Even the six principles of the Ellen MacArthur Foundation (2009) can be useful once detached from their pro-growth aspirations.[3]

The social dimension of post-extractivism is twofold. The first aspect has to do with autonomy: it consists in insuring that the pace of resource non-extraction is set democratically by the ones who are most affected by it. The export-led, debt-driven extraction model is undesirable at it locks the already most destitute countries into the domination of Northern consumers and producers and their "imperial mode of living" (Brand and Wissen, 2013). When it comes to the financial debt system that is currently pressuring countries to extract, the goal should be to organise a citizen audit of debts as to decide how much of it is illegitimate and should therefore be cancelled.

Following democratic deliberations, the extractive sector should be downscaled as to only extract what is strictly necessary, in a way that is socially and environmentally sound, mostly to fulfil the fundamental needs of the community, and without creating any economic

[1] This is only one of the many problems of the current circular economy discourse. Not only is it rooted in a productivist logic of industrial production, but it is also *economicist* (it commodifies waste and leave its management to the market), *biophysically reductionist* (it ignores the social aspect of waste), *techno-optimist* (it relies on an array of unconvivial tools such as transnational smart grids and isolated eco-parks), and *a-political* (it treats circularity as a technical solution with little or no discussion about social-ecological justice).

[2] "Instead of a growth-based circular economy, or *physiocircular*, it is urgent to build a *permacircular* economy where circularity is not associated to logics of increased consumption that would cancel its benefits" (Arnsperger and Bourg, 2017: 93, italics in original, mt).

[3] (1) *reduce* through eco-efficiency (minimising the input of primary energy, raw material, and waste); (2) *reuse* (products or components that are not waste re used again for the same purpose for which they were conceived); (3) *recycle* (reprocessing waste materials into new products, materials, or substances); (4) appropriate *design* (designing out waste by anticipating the full life cycle of products); (5) *reclassification* (of the materials into technical and nutrients, the former being designed for reuse whereas the latter are to be returned safely to the biosphere); and (6) *renewability* of energy sources.

dependency.[1] The goal is to conduct an industrial reconversion as to diversify economic activities so that resource-cursed countries can escape the extractivist trap, and for all nations (or bioregions) to achieve sovereignty when it comes to energy and materials.

The second social aspect of post-extractivism has to do with sufficiency: it consists in insuring that the costs of resource non-extraction is born by the ones who have most profited from extraction in the past. The un-monetarised social, ecological, and climate debt linked with previous exploitation should be acknowledged as a breach of relations of reciprocity and should lead to direct compensations, reparations, and restitutions, as well as to set differentiated terms of exchange for future trade relations.[2]

The case of the Yasuní-ITT Initiative[3] provides an example of a promising way forward, at least concerning low-income countries. Set a real price for natural resources (including the social-ecological cost of their extraction); importers of resources would then pay that price to import *nothing* as the resources would stay in the ground. Put another way, early industrialised countries would be massively buying natural resources and take on themselves not to consume them. This could be a way to pay their ecological debt, mitigate environmental impacts, and reduce global inequalities.

Extraction is not only an action but also an ideology and a system: extractivism. More than the isolated practice of a few isolated plunderers, extractivism is an entire economic model that strives to turns every available piece of nature into money. This growth-at-all-costs system exists at the expense of a permanent social and ecological tragedy, which is why the economy of a degrowth society cannot be extractivist. What degrowth opposes is not the appropriation of Nature per se, but the *how much* and *how fast*, *who* and *for whom*, *what* and *for what*, *how*, and *why*. In other words, it stands against the ideology of growth applied to extraction. The alternative is post-extractivism: substituting a logic of sustaining to one of depletion, applying the notion of stewardship to the resources without which society could not exist.

PRODUCTION

"Minimise inputs, maximise outputs" has risen to become the truism of the current times. Whereas the limits of its consequence (economic growth) were exposed in Part I, I will now criticise the dictum itself, namely the imaginary attached to productivity and the practices of production that stem from it.

[1] Gudynas (2011) proposes to reach this goal in two steps. First, transitioning to an "*extractivismo sensato"* (reasonable extractivism) with State regulations to force companies to internalise the negative externalities of their activities and to pay taxes so that the benefits of extraction could be invested in measures that promote social and environmental justice. A second strategy is the *neoextractivist* or *socialist extractivist* of certain South American countries, which consists in taking national (and possibly regional or municipal) control over extraction as to ensure that it contributes to development. These two strategies, however, remain alternative forms *of* development and not alternative *to* development.

[2] This would require changing the "non-discrimination" principle of the World Trade Organisation ("A country should not discriminate between its trading partners and it should not discriminate between its own and foreign products, services or nationals") as to allow positive discrimination towards climate creditors.

[3] The Yasuní-ITT Initiative was a project launched by Ecuadorian president Rafael Correa in 2007. He proposed to suspend the extraction of oil in parts of the Yasuní National Park under the condition of receibing $3.6 billion from the international community. Unsuccessful (only $200 million were given), the project was abandoned in 2013.

Productivism, or industrialism,[1] as a fetishism for production and productivity, is what is to be escaped after capitalism.[2] Once again, the issue is twofold following division between real and imaginary. The practices relating to production must change, going from a technical-industrial system to a diversity of vernacular, artisan circles; and the logic of production must change, from a generalised cult of productivity to care and conviviality.

Technique and the desirability of productivity

A problem with the quest for better productivity is that it sometimes obscures the purpose of production itself. But what should be done with productivity gains? Should it be used to increase outputs or to decrease inputs? It would seem natural to assume that such a decision depends on the nature of what is being produced. If I manage to write this chapter in two weeks instead of four, it would make little sense to keep working to write it twice and so I would choose to decrease my input (time) holding my output (number of chapters) constant.

This has been a recurring claim throughout the dissertation: the ultimate purpose of the economy should be to liberate the time that is dedicated to the provision of necessities. I value my typewriter not because it allows more to produce *more* but because it enables me to write this thesis *faster*, thus liberating time for me to whistle in the shade – productivity here is only a means to a non-economic end.[3] Paradoxically, the objective of an economy is to minimise its existence – to make the economy of economy itself.

The productivist perspective I criticise in this section differs: because it only values production ignoring the process that leads to it, if I can produce more then I should, and this always. Productivism is a mentality that holds production as an end in itself; it is a view that sees the output of production as the measure of all things. It also assumes that productivity is always desirable. From a productivist perspective, there is no rational reason for me to write this chapter in four weeks if I can possibly write it in two. In that decision, only input and output matter; in fact, the measure of success *is* the relation between the two, in the direction of the bigger the output/input ratio the better.[4]

What I call productivism is close from what Jacques Ellul (1954, 1977, 1988) calls *technique*. For him, *technique* is the pursuit of the most effective means independently of all other considerations. What he calls a "technicist system" (*système technicien*) is one where technique becomes autonomous from political control. In the book he dedicates to Ellul,

[1] Here is Tawney (1920: 45) describing the term: "the essence of industrialism, in short, is not any particular method of industry, but a particular estimate of the importance of industry, which results in it being thought the only thing that is important at all, so that it is elevated from the subordinate place which it should occupy among human interests and activities into being the standard by which all other interests and activities are judged."

[2] *Productivism* is not the same as *producerism*. Producerism is used in two ways: as an ideology built around the belief that it is those who are directly engaged in the process of production contribute to a greater extent to society than the ones who are not, and as a system of production made of unorganised collection of small independent producers conducting production each based on their skills and aptitudes and in service of the community and God.

[3] "The desire for high productivity doesn't always imply a productivist ethos. Productivism is when you say production has got to get faster and faster so we can produce more and more, because more equals better. But if you say we must produce the maximum in the minimum time so that we all have the time to do what we want – that's not productivism. Because then the goal isn't to increase production; it's to increase free time. Productivity is simply a means to this end" (Gorz, 1983: 70).

[4] Here, we understand why the resource productivity desired by some environmentalists might become counter-productive to the achievement of sustainability. It does so by reinforcing a logic of *productivism* that keeps resource use constant in the sector that experienced the productivity gains (direct rebound effect) and might lead to more production elsewhere in the economy (indirect rebound effect). This is why the decoupling of economic activity from nature as a stand-alone strategy for sustainability is bound to fail (the main message of Chapter 2).

Latouche (1995) describes a "megamachine," a society that has surrendered its purpose to the endless striving for effectiveness, regardless of the task. For Ellul, the supremacy of efficacy poses a threat to autonomy, robbing individuals from the ability *not* to adopt new technics (e.g. not updating to a new software or hardware even though it is available).

Whereas Ellul considered technique to be outside of economy, I contend, following Latouche (2013b), that it is because of the economy that technique can become autonomous. While efficacy and effectiveness is still linked to a concrete purpose (a use value), *efficiency* is the ultimate technicist pursuit: all processes simplified to the maximisation of output, often measured in abstract money.

What is the alternative to productivism? The opposite attitude to the productivist fixation on quantity is twofold. The first is to acknowledge that production is not an abstract process that occurs detached from a social-ecological context. Production should be *socially useful* in that it satisfies specific human needs that are themselves not manufactured by the producers (e.g. advertisement and planned obsolescence). This is a key point: production should always aim to satisfy a need that is determined prior the act of production (I grow food because I am hungry or because I enjoy it; there is no point building a greenhouse for tomatoes if I do not enjoy eating them). Additionally, it should also be *ecologically harmless*, meaning it should not threaten the health of the biosphere.

Once a need has been determined, it consists in keeping a focus on the quality of what is being produced and how it is produced, which is the default mode of thinking of the arts and crafts. The "4.33" song composed by John Cage would be no better if played in half the time; there is no point working with cheaper materials if it reduces the durability of the product; and there is little sense in completing a task faster if it makes it stressful. The anti-productivist approach embraces a *Do It Yourself* common sense. If I bake a cake for my guests, productivity comes second to the factors of pleasantness of the cooking and good taste of the food. In a degrowth society, the gains of productivity that are pursued are rather gains of pleasure, durability, and sustainability as they do not seek to improve the ratio input-to-*quantity*-of-output but input-to-*quality*-of-output-*and-process*.

From a productivist perspective, all gains of productivity are always welcomed. From a degrowth perspective, it depends. Certain gains of productivity are more desirable than others and sometimes productivity is in itself undesirable. An example illustrating the first point: improving resource productivity over labour productivity might be more preferable in a situation of ecological overshoot and mass joblessness. Actually, a consequentialist case could be made against labour productivity if it puts people out of work or damages the environment.

This shows that what makes a gain of productivity desirable depends on the direction in which it changes the ratio of used to unused resource depending on the overall context of production. This is especially true if productivity gains are relative and not absolute (i.e. the productivity gain of one factor of production happens at the expense of a productivity loss for another). If the labour productivity experienced during the mechanisation of agriculture was achieved at the expense of a decrease in capital and natural resource productivity (less work but more tractors and petrol), one could ask whether such development was desirable or not. When it comes to productivity, the question should be: Is this productivity gain occurring at the expense of another? If yes, which of those is more desirable?

The second point about productivity gains being sometime undesirable may seem highly counterintuitive to economists who hold scarcity as a constitutive ontological assumption of social life. But there are cases where productivity is unwelcome, either because it creates rebound effects or because it strips the activity from its meaning.

Resource productivity is desirable only if it does not rebound into more consumption. If it does, a "debound effect" (Schneider, 2003) would actually be more suitable. Whereas a *rebound* effect causes consumption to increase when efficiency rises, a *debound* effect does the opposite: less efficiency leads to less consumption. For example, e-mails are much more efficient than physical letters, but this efficiency gain has *rebounded* into making people sending more messages and therefore increased the absolute quantity of time they spend corresponding. If tomorrow Internet were to crash and everybody had to return to writing physical letters, it is likely that people would reduce the amount of correspondences they keep – consumption would *debound*.

In order to illustrate how productivity can renders an activity meaningless, let us look at a case where one asks their friends to help move in furniture during a housewarming party. Improving labour productivity is undesirable if it excludes some of my friends from the act of "production," or weakens the feeling of effortful pride experienced by the ones helping out and the feeling of gratefulness experienced by the one being helped. Paradoxically, for economists at least, the practice is socially valuable because it is slow and difficult, that is *unproductive*.

What these trivial examples demonstrate is that productivity is always embedded within broader social relations. This is obvious when looking at production occurring within the household or close kinship (parents do not try to minimise the input of time spent with their child as to maximise the kid's utility), but this influence quickly withers away in other settings. What degrowth advocates is to re-embed the process of production and the goal of productivity within these social relations. In sum: to treat all forms of production like they were homemade, with and for friends.

From over-efficient technology to conviviality

If there can be no production without tools, and if specific tools affect production and its logic, then the choice of tool becomes crucial. Rephrased as a question: Which technologies should be deemed suitable for a degrowth society? To answer that question, I will draw upon the life work of Ivan Illich (1926-2002). Illich articulates three ideas (threshold of counter-productivity, radical monopoly, and professionalization) in a critique of modern technology and then offers "conviviality" as a counter-concept to describe adequate tools.[1] As I am about to argue, *conviviality* should be considered a central principle of degrowth.

Before diving into Illich's work, it is necessary to define what technology is. Let us start cautiously: technology is "a tool, method, or design that help humans solve problems and achieve goals" (Alexander and Yacoumis, 2016: 2). (This is one definition among many. I start from this one because it is as broad as it gets.) A technological product is then not necessarily a physical product: a knife is a piece of technology but so is a law or a university textbook. I

[1] I should say right away that Illich does not mean *conviviality* in the common use of the term, that is as joyful, festive, enjoyable time spent in good company. Rather, his reading of the term is closer to how we use *simplicity* in everyday language.

differentiate here between tools[1] (material) and institutions (immaterial), considering both to be technologies. In reality, the material and immaterial aspects are often entangled. For instance, a train station is a space where both material (rail, trains, turnstiles) and immaterial (ticket system, clocks, queues) technological artefacts co-exist.

Innovation does not happen in a social vacuum and tools do not invent themselves, that much is clear. A technological artefact cannot be detached from the long chain of social-ecological events that made it possible in the first place. Facebook was not solely the outcome of Mark Zuckerberg's ingenuity. The website could only emerge because Mark was educated, cared for, and so had enough time to think about it, because he thought the idea was somehow valuable and because the material infrastructure rendering it possible was already there. Without an education system, all the technologies affording the leisure of a Western lifestyle, the extraction of materials and energy necessary to maintain a computer network, and a profit-hungry market to pull the idea out of Mark (or at least to motivate him to go to Harvard), there would have probably been no Facebook. Talking about the importance of societal arrangements in the making of technology, Hornborg (2016: 15) perfectly summarises this point: "Just as DNA in itself would not suffice to generate an organism, blueprints cannot generate a technology."

Society makes technology and technology makes society back. Technology does not only reflect social relations but also actively shape them (Hornborg, 2019). "The kind of tools a society chooses to employ and develop determines its political, institutional, and ethical fabric" (Muraca and Neuber, 2018: 6). This is Illich's main entry point to criticise technology. "The control of man [sic] over the tool has turned into a control of the tool over man" (Illich, 1973: 26, mt). By this, he means that function determines use: a tool is not only a means to an end because what a tool can potentially do influence what it is being used for. For instance, one does not buy a smart phone because one needs all of its features, it is these features that determine how one uses the phone. The designers of technology end up controlling its users. "Technology is transformed into a force above man [sic], orchestrating his life according to a score contrived by an industrial bureaucracy" (Bookchin, 1971c: 132).[2]

Technology is not just a set of techniques but "political artefacts" (Pansera and Owen, 2016: 10) that embody and shape social relations. In certain cases, contrary to being enabling, technology can actually be disabling. In his early writings, Illich speaks of "counter-productivity thresholds" after which certain tools that used to be beneficial start to defeat their purpose. Quite obviously when the use of a tool comes to threaten the stability of the climate and endanger living organisms (e.g. Earth moving machines, planes, and horizontal drills), but not only (think of certain administrative forms that, even though invented to save time, end up wasting more of it).

For Illich (1973, mt), these "over-efficient tools" have come to threaten the balance of five vital spheres of life: ecology, energy, knowledge, politics, and tradition. Illich picks

[1] Illich uses the term "tool" in the broadest sense possible to describe any instrument that is used to perform a specific task. So a hammer, a bike, or a nuclear power plant a tools, but so are laws, parking meters, and schools. In this dissertation, I use a narrower definition – tools as "any *object* that can be used as a means to an end" (Illich, 1973: 44, mt, italics added).

[2] Here is a longer quotation of the same passage: "The machine now appears as an alien force – apart from and yet wedded to the production of the means of survival. Although initially an "extention of man," technology is transformed into a force above man, orchestrating his life according to a score contrived by an industry bureaucracy: not *men*, I repeat, but a *bureaucracy*, a *social machine*. […] When he becomes an extension of a machine, man ceases to exist for his own sake." (Bookchin 1971b: 154, italics in original).

concrete case-studies: school makes us ignorant (Illich, 1971), medicine makes us sick (Illich, 1975), cars, which should make us faster, slow us down (Illich, 1976). The example of the car is the easiest to grasp. Illich (1975) calculates all the hours spent earning the money to buy the car, the time spent inside the car (driving but also stuck in traffic jams) and repairing it, to arrive at an average "generalised speed" of 7 km per hour, same as a bike. While cars make us feel faster, they are actually *counter-productively* slowing us down.

Two undesirable side effects of these "over-efficient" tools are "radical monopoly" and "professionalization," which both threaten autonomy. Illich (1973: 81) talks of a "radical monopoly" to describe a situation where a tool comes to impede a natural capacity (e.g. the calculator holds a radical monopoly because it has made the natural ability of calculating obsolete). A tool holds a radical monopoly if one cannot perform a certain task without using it. For example, I could not become a professor and teach without receiving a PhD even though I may have all the required skills – the PhD that was supposed to gives me knowledge became knowledge. In certain places, the car holds a radical monopoly over transportation: it is not that the car is faster than walking as a means of transportation (think of a highway traffic jam), it is that the car becomes transportation ousting walking in the process.

As for "professionalization," it describes a process whereby the production and use of tools is reserved to a few selected experts. For instance, while most people used to grow some food at home, industrial agriculture has concentrated such task into a handful of professional farmers, thereby dispossessing most people from their know-how. Once a craft has been professionalized, it ceases to be convivial for that it puts users in the position of passive clients, with no agency over production (I can decide what type of strawberries to plant in my garden and how to grow; I cannot decide this for the strawberries I buy in the supermarket). Illich (1973d cited in Paquot, 2019: 65, mt) talks of an increasing "polarisation" between those who know how to use the tools and those who do not.

If technology makes society back, a convivial technology is one that enables individual and collective autonomy. Illich (1973: 13, mt) defines the convivial society as "a society where modern tools are serving people integrated in a community, and not a group of experts. Convivial is the society where man [sic] controls the tools." Conviviality is a relation between a tool and its users. Detached of any context, it is impossible to say whether a toothbrush (or any tool for that matter) is convivial or not. This is Illich's (1973: 27) point when he argues that although prisoners may have access to a range of specific tools, it is not convivial because they are denied any agency in the making and use of these objects. One could say that conviviality is the freedom for users to choose and shape their tools; it is, as such, a pre-requisite for autonomy.[1]

For Illich (1973), a convivial tool has three features. (1) It does not degrade personal autonomy, one could say it is user-friendly (*understandable* and *controllable*). To be convivial, tools and institutions must remain within the comprehension and control of the user(s). (One should rather say here *potentially* understandable and controllable. For example, it is not a requirement that everybody know how to ride and fix a bike, but they should be able to do so should they desire it.) (2) It does not generate relations of exploitation; the use of one tool does

[1] In that sense, it is similar to what Bookchin (1971) calls "liberatory technology," the "open technology" defended by Gorz (2005, mt), and the "barefoot" medicine or "barefoot" banking of Max-Neef (1991).

not infringe on the autonomy of others (it is *manageable* by its user). "[A] society that gives man [sic] the possibility to practice an activity that is autonomous and creative, using tools that are less controllable by other people" (Illich, 1973: 43, mt). Technology should not be the vehicle of domination. (3) It broadens the horizon of personal action – it *empowers* its users. "A tool is convivial if anybody can use it, easily, as often or as rarely as they desire, for a purpose that they themselves determine" (Illich, 1973, mt).[1]

Several authors have attempted to refine the Illichian idea of conviviality. Muraca and Neuber (2018) lists five conditions of conviviality: (a) decentralised, (b) democratically controllable, (c) reversible, (d) subordinated to the values and ends commonly negotiated, and (e) accessible in terms of knowledge and affordability. Vetter (2017) goes one step further and proposes a Matrix of Convivial Technology made of 5 dimensions acting of 4 levels (materials, production, use, and infrastructure): *relatedness* (what does a technology bring about between people), *accessibility* (who can build or use it where and how), *adaptability* (how independent and linkable is it), *bio-interaction* (how does it interact with living organisms), and *appropriateness* (what is the relation between input and output considering the context).

To illustrate this, consider a bicycle. A bike is a convivial tool if I can use and repair it myself (*controllable* and *understandable*), if I am not relying on replacement pieces from a specific manufacturer (*manageable*) and if it allows me to do something I could not do without it (*empowering*). It is also *reversible* (because I can still at any point decide to not use a bike anymore and go back to walking) and democratically controllable (because people know what biking entails and so can make well-informed decisions about its practice).

But a bike could well be made unconvivial. It could, for example, lose *empowerment* if all bikes were limited to walking speed; it could lose *manageability* if bike lanes were so complex as to necessitate a GPS system; it could lose *controllability* if it were difficult to use to the point of maybe requiring extensive lessons; and it could lose *understandability* in the case of an electric bike with a complex engine whose functioning goes beyond the users' comprehension.

Let us mention a few more examples from the literaure. On the convivial side: solar shower bags, washing lines, bicycles, and alternative heating and cooling methods (Alexander and Yacoumis, 2016); non-commercial bike repair studios such as the "Bike Kitchen" in Malmö (Bradley, 2016); bicycling subculture, urban gardening and agriculture, and open-source communities (Carlsson and Manning, 2010). And when it comes to non-convivial technologies: hydraulic fracturing (Metze, 2017), geo-engineering (Muraca and Neuber, 2018), and genetically modified organisms (Gomiero, 2017). A last example: "a house built and repaired by its users is convivial, a 'smart building whose temperature is controlled by software is not" (Kallis et al., 2015a: 27).[2]

The opposite of a convivial tool is then an arcane, uncontrollable, constraining tool,[3] the car being a perfect example. Most people do not understand how their car function and rely on

[1] Referring to a similar division, Gorz (2005) speaks of convivial tools as "open technologies" (*technologies ouvertes*) and industrial ones as "locking technologies" (*technologies verrou*). Also, Bihouix (2014) calls convivial tools "low tech."

[2] High-frequency trading algorithms are another example of non-convivial tools. Not only are they difficulty understandable by non-experts but they contribute to creating unmanageable situations that can only be controlled by better algorithms and where the users of the tool are demoted to mere button pushers.

[3] Conviviality and complexity are not necessarily opposite as it is the gap between the complexity of a tool and the ability of its users to understand it that defines whether a tool is convivial or not. If only focusing on the controllability aspect, computers

mechanics to have it repaired. The car requires petroleum which, not only makes the user dependant on its purchase, but also contributes to situations of social-ecological exploitation. And while the car might be empowering to some extent (carrying heavy loads, travelling with people, protection against the weather), it also involves some constraints (can only circulate on roads, abides to Highway Code). The issue of *scale* here is critical: the larger a system (e.g. roads, electricity grid, hospital, university), the more complex it is, which then requires expertise and then renders the tool undemocratic because the class of experts knows how to manage the system better than the rest of the population.

To return to a previous example, Facebook is not a convivial tool. Not only because its design is outside of users' control (they are decided by Facebook's employees), but also because its inner functioning is based on code that is hidden away. The site makes money by selling private information from its users, which could be considered a form of exploitation. Additionally, the platform has developed a radical monopoly: the social network that was supposed to connect friends became friendship itself, to the point where it is now difficult to interact socially without being on Facebook.

From industry to artisanship and vernacular production

How should one think about industry from a degrowth perspective? What we currently refer to as *the industry* is a hallmark of productivism: (a) a high division of labour, which weakens certain worker's cognitive abilities thus jeopardising the potential for direct democracy; (b) the substitution of capital and energy to human power, which favours large, hierarchical corporate structures, attracts faster productivity gains, and contributes to environmental degradation; and (c) economies of scale leading to mass production, which requires a corresponding mass consumption.

In biophysical terms, the industrial mode of production is an accelerator of energy and material use. In social terms, it is responsible for the hyper-specialisation of tasks that renders certain industrial jobs meaningless and the hyper-consumption of items that renders consumption itself meaningless. In that sense, the deindustrialisation that is occurring in old capitalist economies may seem like good news as it would mean less extraction of materials, less pollutions, less alienations, and slower increases in productivity. Yet, deindustrialisation in the North is only problem shifting if it happens at the expense of an industrialisation in the global South, which then leaves the situation unchanged if not worse (I am thinking here of the pollution haven hypothesis from Chapter 2). The deindustrialisation that degrowth advocates, on the other hand, is not local but global. It is a reduction of the industrial sector that is both absolute – more deindustrialisation than (re)industrialisation – and relative to other sectors of the economy.

It should also be noted that reductions in individual consumption (voluntary simplicity) would reduce the need for production (especially industrial), and so one should expect a degrowth society to have an overall lower production requirement.[1] But individual consumption will not disappear and so the question remains: How are the remaining goods to be produced?

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were not convivial in the 1990s because very few people then understood how they worked; they have, however, become relatively more convivial today.

[1] Voluntary simplicity is a deindustrialisation of demand if downshifter favour artisanal, home-made objects.

Degrowth suggests two answers to that question: artisanship and self-production. Let us consider each one in turn.

The first idea consists in opposing industrial activity to its historical predecessor, namely the arts and crafts, or what I will refer to, following the French term, as *artisanal* activity. Artisanship was the main mode of production in agricultural economies where most goods were made by specialised artisans (blacksmiths, shoemakers, wheelwrights, tailors and so on). The ecological appeal of such system is that it is labour-intensive and so can be done without fossil fuels. Socially, these are occupations that come with a meaning and pride, in opposition to hyper-specialised and bureaucratic "bullshit jobs" (Graeber, 2013). And finally, it can occur within smaller structures of production. These are more conducive to worker direct democracy, which is more likely to favour socially useful production, and are easier to integrate within already set communities (instead of people having to live where industrial factories are, artisanal factory can open where people live).

Artisans can organise into guilds, where a group of small-scale producers takes control of a specific industry as to allow a social control of production. "Crafts would regain their honoured position as supplements to mass manufacture; they would become a form of domestic, day-to-day artistry" (Bookchin, 1974: 130). More fundamentally, artisanship has to do with how concerns for beauty can trump typical economic worries about cost. Beautiful, not because it sells, but for its own non-economic sake.

Additionally to artisanship, provision in a degrowth society will also rely on *vernacular production*. Coming from Illich's (1981), the "vernacular domain" is "the activities of people when they are not motivated by thoughts of exchange, a word that denotes autonomous, non-market related actions through which people satisfy everyday needs" (ibid. 57).[1] The vernacular is do-it-yourself, self-taught, often unpaid, made-at-home production, or what is often called *self-production*. It is the realm of vernacular production that shrinks in a process of commoditization, where vernacular goods and services are turned into market commodities. Degrowth blurs the division by talking of "co-production" or "prosumption" (Ritzer et al., 2012). These terms denote the agency of consumers in taking part in the production that would satisfy their own needs.[2] There is no need for cement if houses are made of hempcrete, rammed Earth, or wood, and there is no need for a construction industry if communities can build their own dwellings. But, of course, not everything can be self-produced, even in an ideal degrowth society.

Besides, the transition towards such a post-industrial artisanal mode of production will take time and so it is necessary to think about guiding principles to organise industrial production in the meantime. Historically, industrialisation came to replace artisanal activities, not abruptly but by slowly industrialising production. From a degrowth perspective, the

[1] "Vernacular is a Latin term that we use in English only for the language that we have acquired without paid teachers. In Rome, it was used from 500 B.C. to 600 A.D. [sic] to designate any value that was homebred, homemade, derived from the commons, and that a person could protect and defend though he [sic] neither bought not sold it on the market" (Illich, 1981: 24). Referring to something similar, Gorz (1993: 57) speaks of "*la culture du quotidien*" (everyday culture), for the "whole self-evident collection of intuitive knowledge or vernacular know-how (in the sense given to this term by Ivan Illich), the habits, norms and modes of conduct that enable individuals to interpret, to understand, the assume responsibility for the way they inhabit the world that surrounds them."

[2] "Because only by *consuming* the things which we produce can we judge whether they are useful, meaningful and wholesome, whether they are necessary or superfluous. And only by *producing* what we consume can we know how much time is really necessary for the things we want to consume, what skills are necessary, what knowledge is necessary and what technology is necessary" (Mies, 1986: 219).

opposite should now occur: a slow *artisan-ation* of the production requirements of a simple lifestyle, if it can be called that.

Industry will not, and should not, completely disappear.[1] Once the problematic industries whose production is deemed unnecessary are closed, the remaining small industries should be re-organised to resembles the industrial utopias of C. Fourier's "phalanstère," J.B. Godin's "familistère," E. Cabet's "Icarie," R. Owen's "New Harmony," Kropotkin's "industrial villages," or J. Narajan's "agro-industrial communities." One should not, however, scrupulously follow the industrial utopia of the 19th century and commit the mistake of building a utopian society *around* industrial activity instead of building an industry *for* a utopian society. (Indeed, it was a time where industry was culturally prevalent, and so one way to subvert a specific industrial mode of production was to propose another industrial mode of production.)

Let me reiterate that the scale aspect of production is determinant for autonomy. As Bookchin (2001/2002, italics in original) writes about communalism, "its aim is not to nationalize the economy or retain private ownership of the means of production but to *municipalize* the economy. It seeks to integrate the means of production into the existential life of the municipality, such that every productive enterprise falls under the purview of the local assembly, which decides how it will function to meet the interests of the community *as a whole*." This is precisely the economic democracy I mentioned earlier and it should be considered one of the central objectives of degrowth.

Dépense as a solution to surplus accumulation?

What is to be done with the surplus production that is not directly consumed? In modern economies, it is commonly considered rational that it should be invested as capital into further production. But as we saw in Chapter 1, the investment of the surplus is one of the main driver of economic growth. An economy that keeps investing in its productive capacity can hardly shrink or relax. It follows that in order to keep the economy in a steady state, the productivity of excess production must be somehow restrained.

The editors of *Degrowth: A Vocabulary for a New Era* (2015) saw in *dépense* a solution to the surplus problem (the most fervent advocate of degrowth-as-*dépense* is Romano, e.g. 2019). *Dépense* (literally "expenditure" in French) comes from anthropologist Georges Bataille (1970) who proposed an analysis of societies based on how they handle, not scarcity, but an excess of resources. "Tell me how you use the surplus and I'll tell you who you are," summarises Romano (2019: 45) in his work on *dépense*.

Bataille (1970: 11-12) divides consumption into two types: the consumption necessary for the mere preservation of life and the process of production, and the ones which constitute ends in themselves (unproductive or anti-utilitarian expenditures) such as "luxury, mourning, wars, culture, the building of sumptuous monuments, games, spectacles, arts, perverse sexual activity." The latter one is the "festive economy" that he opposes to the capitalist economy.[2]

[1] "industrial tools, produced by the heteronomous labour of waged workers, seem like a luxury: they are not absolutely indispensable but they are desirable, because they allow you to produce a little extra over and above what is necessary, while increasing your free time. Thus, industrial production – as long as it stays within certain limits – is the precondition for the villager's real autonomy: the space to do what is not absolutely necessary, or the space to do nothing, to dream in the shade" (Gorz, 1983: ch. IV, mt).

[2] "either most of the available resources (i.e. work) are used to fabricate new means of production – and we have the capitalist economy (accumulation, the growth of wealth) – or the surplus is wasted without trying to increase production potential – and

Bataille suggests the term *dépense* because the meaning given to these activities is proportional to the amount of resources being *dépensed* (meaning wasted/consumed) in the process.

For Bataille, *dépense* is the contrary of production and acquisition and can be used to understand certain social behaviours. For example, whereas prestige in a growth society is attributed to people who own material possessions, some ethnographic studies show a complete opposite behaviour among certain pre-modern communities: not conspicuous consumption but "conspicuous *dépense*" (Bataille, 1970: 23). Phenomena of *dépense* do still exist in a modern consumerist society but the *dépense* is now private, hidden, and self-centred instead of being public, visible, and directed on others (Bataille, 1970: 24).

This question of surplus is deeper than it looks. Fundamentally, *dépense* is the ultimate autonomy. For Bataille (1949), the surplus is an "accursed share" because it is source of anxiety as it forces us to choose what to do with it. "There are no more 'natural' indications on how to use energy. Instinct does not decide for us anymore. Man [sic] must now elaborate a sense, an end, in the name of which to draw the fuel of action and channel it into canons of value autonomously designed" (Romano, 2019: 44). "Beyond utility is the realm of sovereignty," Bataille (1976: 14 cited in Romano, 2019: 48) writes.[1] Connecting back to the section on values, one could say that surplus is the fuel of existentialism.

In light of what has been said before, let us consider *dépense* as a way to deal with unforeseen productivity gains, or cases where production is larger than one expected. (One might go further and wonder why there should be a surplus in the first place. Indeed, if the production process is tailored to specific, limited needs, then there is little sense in producing *more* than what is needed.) Although the idea of "wasting" what has just been produced might agitate economists, *dépense* is relevant for degrowth on four different levels.

First, the liquidation of the surplus maintains the economy in a steady state.[2] The resources that are systematically "wasted" (or we may rather say *enjoyed*) in lavish parties and monuments are resources that are not (re)invested in additional production.

Second, the logic of dépense acknowledges a balance between the spheres of economy, society, and nature that must be preserved. If one happens to produce in excess, for example in the case of particularly good fishing day where one might have overfished or overtired the people fishing. Then the waste of one part of the bounty restores the balance. Biophysically by, for example, freeing part of the captured fish or throwing their carcases back into the river (restoring an economy-nature balance); and socially, by organising a public feast where the successful fishers would be celebrated (restoring the economy-society balance). In that sense, the choice of *dépense* is a choice of reproduction of a given structure rather than growth.

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we have the festive economy. In the first case, human value is a function of productivity; in the second, it is linked to the most beautiful outcomes of art, poetry, i.e.: the full growth of human life" (Bataille, 1998: 277 cited in Romano, 2019: 45).

[1] The full paragraph is worth the quotation: "the sovereign really enjoys the products of this world beyond his needs: here lies his [sic] sovereignty. We say that the sovereign (or the sovereign life) begins when, once the necessary is assured, the possibilities of life are opened without limits. Conversely, the enjoyment of possibilities not justified by utilities is sovereign" (Bataille, 1976: 14 cited in Romano, 2019: 48).

[2] The point prompts the following question: Were these communities remaining in a steady state because of their acts of *dépense*? Or were other factors involved, like the fact they only relied on renewable resources? In other words, is dépense a means (of avoiding accumulation) or is it a desirable practice in itself? One can expect that an antiproductivist, degrowth economy would produce less excess than a growth one, and so in absolute terms, the possibility for *dépense* would be reduced. Except if *dépense* is considered desirable, then the logic changes: it is less a matter of depensing a surplus production just because it is there than to specifically providing for the need to have parties, monuments, or arts. If *dépense* is understood as a means, then it will only be useful as a strategy during a degrowth phase of transition from a growth society to a postgrowth one. If *dépense*, on the other hand, is understood as an end, then it will have its place in a postgrowth society.

Third, if public, *dépense* comes to equalise the distribution of resource.[1] Whereas today's logic accounts to redistributing wealth by seizing it from the ones who have it as to give it with the ones who do not, *dépense* performs an act of pre-distribution: all stocks are systematically destroyed as to avoid the constitution of inequality. (This is another reason why Bataille (1949) came to refer to this surplus as the "accursed share.") Degrowthers speak of *convivial* dépense in referring to such a collective, democratic act of prodigality.

Fourth, *dépense* changes what commands prestige, from accumulation to waste. This, of course, does not put an end to rivalry and so the logic only finds itself inverted with individuals now engaging in a positional competition for prestige via conspicuous waste. There are two subtle differences, however, which makes waste-based positional competition more desirable than its accumulative counterpart. While accumulation removes resources from nature and culture, and is therefore limited by the amount of resource that is out there. Waste, on the other hand, periodically returns it to nature and culture, which ensures sustainability in time. The facts that these resources become available again allows for fresh starts enabling new players to enters the positional game (this fits well with my previous point about seeing the economy as a *finite* game, which should then restart once in a while). Also, because *dépense* is more easily shared publicly than accumulation, an eternal positional competition based on waste is ultimately at the benefit of all because everybody can at least join in the celebration.

And this is the last, and in my view most valuable, aspect of *dépense*: to see the purpose of economic activity as a party. Anti-productivism means relaxing economic rationality and replacing it with playful festivity; it is a reminder that if there is no joy derived from the production and the product, then one may better just do without it.[2] This is two steps further from the productivist credo. One, production should satisfy specific, and by definition bounded, needs.[3] Two, production should not remain a utilitarian struggle for survival for the mere sake of surviving but a quest for *joie de vivre* (Romano, 2019). This is the purest form of de-economisation, production then becoming a ludic activity and labour a pleasure. To capture this insight, I want to borrow and slightly modify a sentence from anarchist political activist Emma Goldman (1879-1940): "If I can't dance, I don't want to be part of your *production*."[4]

The point of this principle is twofold. The ways production is performed – both in *real* (what we do) and in the imaginary (what we think we do when we do it) – should change. The radical anti-productivism of degrowth should not be seen as a demonization of acts of production that condemns societies to an idle life. Quite the opposite, degrowth proposes to imbue individual

[1] That is Ariès's (2009: 20, mt) motivation to use the concept of *dépense*: "The fact that primitive people do not make their activities more productive is not because they cannot do it, but rather because they do not want to do it: stocks are systematically destroyed in gigantic feasts to avoid an individual appropriation that would create divisions among the community."

[2] Let me illustrate with a personal example. During my student years, I was once organising a weekly brunch in a local restaurant. Uncertain about the number of people who would show up, the other chefs and I would always produce a little bit more than what we thought was necessary. This meant that after everybody had eaten, we were left with excess food. Now, from a productivist perspective, it would make sense to make an economically rational use of this surplus, perhaps sell it the day after. Alternatively, one could also split the food among the workers in proportion of how much they participated in the cooking. Instead, we decided to *dépense* the surplus into a celebratory feast, whose logic was non-economic in substance: a pleasant meal that is an end in itself without preoccupation of costs and benefits.

[3] This is the difference that Tawney (1920) makes between the "acquisitive society" that seeks the maximise wealth for its own sake and the "functional society" that sees production as a means to achieve a limited set of objectives.

[4] The original statement from Goldman was: "If I can't dance, I don't want to be part of your *revolution*."

and collective acts of creation with new meanings, organising them as artisanal-like activities in a not-for-profit mentality.

The second point is that productivity should be swayed by other cultural customs, and so in effect, sometime welcomed, sometimes unwelcome, and other times just used with moderation. In any case, productivity should never be an overarching goal. The question should always be: What to produce? Why? How? With whom? And for whom? For that, the idea of convivial *dépense* provides a powerful counter-narrative to the one of productive accumulation.

ALLOCATION

This element concerns the shrinking of the realm of market exchange and its associated logic. I call this logic *commercialism*.[1] In common parlance, the word "commercialism" is often used in a derogatory manner to describe a concern with money at the expense of other values – e.g. "the practice of trying to make as much profit as possible and not caring about how this affects other people or places" in the Cambridge dictionary. It is in this precise connotation that I use the term: commercialism as the subordination of all social activities to the production and selling of commercial goods and services.

More than a personal attitude, commercialism is also a system where most time and effort is dedicated to buy and sell. In economics, the process of preparing items for market exchange is called *commoditisation* (or c*ommodification*).[2] In a commercial system (synonym with market society), commodities hold an evolutionary advantage over non-commodities with the former invested in and the latter marginalised – "commoditization is a selection pressure that favors those goods and services that are fit for serving as commodities in the exchange economy" (Manno, 2000: 66). Degrowth is precisely a reversal of this institutional arrangement: placing non-commodities as privileged compared to commodities.[3]

In a nutshell, degrowth is *decommoditisation*.[4] This involves a double movement: taking certain things out of the market and preventing others from entering it. Is decommoditised a good, service, or activity that leaves the sphere of monetary, market exchange to be subdued by other criteria than the sole maximisation of exchange value. Those categories set a spectrum from fully decommodified or uncommodified entitlements (e.g. clean air, organs, sunlight) to partially commodified (e.g. social housing, fare-free public transport, universal education and healthcare) and fully commodified products (e.g. smart phones, solar panels, and energy drinks).

The main point of this element is that the market sphere of a degrowth society should be minimal in comparison to non-market means of provision, and that remaining markets must be framed by social rules and moral values.

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[1] It is after reading Williams Morris' *News From Nowhere* (1891) that I decided to call the imaginary linked to market exchange *commercialism*. (*Marketism*, or the more popular Marxian *commodity fetishism*, could have been other options.)

[2] I follow Manno (2000: 28, italics in original) in preferring the term *commoditisation* over *commodification*: "I use the term *commoditization* rather than the more commonly used *commodification* to emphasize the active nature of the process being described. It carries more of the sense of an active verb, *to commoditize*, rather than the passive *to be commodified*." Using the active form of the term renders visible power relations, namely who commoditises and why.

[3] It is again a matter of proportion: "the point is not that mass-produced commercial goods are bad and less commercial goods are good, but that the propensity in the modern economy to gradually and inexorably marginalize and underdevelop non-commercial goods and favour commercial goods is a huge obstacle in the way of sustainability" (Manno, 2000: Ch. 2).

[4] The degrowth-related literature on decommoditisation is thin: Gerber and Gerber (2017), Gómez-Baggethun (2014), Gómez-Baggethun and Ruiz-Perez (2011), also Boulanger (2010) even though not from a degrowth perspective.

In the present theory, decommodification is the most important dimension, one that preconditions all the others. What Marxian economists call the logic of capital, or what I previously defined as growthism, lives *in* and *through* commodities. To deconstruct such system of allocation, I articulate the two ideas of commons and gratuity, commoning being a specific form of decommodification and gratuity one specific feature of a commons.

What markets are and what markets do

The central institution of a capitalist economy is the market, defined as "a social structure for the exchange of rights in which offers are evaluated and priced, and compete with one another" (Aspers, 2011: 4). Markets coordinate voluntary transactions between buyers who try to buy at a low price and sellers who try to sell at a high price.[1]

To exist and function, a market requires five institutions: commodities, buyers and sellers, prices, competition, and private property. Once these features are in place, there is no theoretical limit to what can be exchanged on a market: buying sperm or surrogate babies, renting out replacement relatives, offset one's flight emissions, the right to shoot a walrus, bottled fresh air, wedding speeches, pay someone to cry at a funeral, to queue in line, to apologise on your behalf, or to write love letters.[2] The case made by degrowth against markets is that the logic they bring is problematic while applied to certain spheres of life – it is therefore a critique against the *market society*.[3]

To understand what is problematic about the extension of the market domain, one must understand how commodities come to exist. Commodification is a particular process whereby a person, a creature, an object, or what-have-you is transformed into an abstract, quantitative, monetised, and privatised commodity as to become exchangeable on a market. In theory, anything can become a commodity; in practice, more and more things do become commodities.

I describe the process of commoditisation in four steps.[4] *Standardisation* separates a thing/entity from its peculiar context; *quantification* renders it commensurable with other things; *monetisation* assigns it a price; and *privatisation* grants its ownership to someone. Without any of these steps, a commodity could not be. I will now illustrate this process with a personal example. My dear childhood companion Joseph the rabbit is not a commodity. To become one, it would need to be made:

[1] There is a difference between trade and a market, and between a market and a market place. "All exchange in markets is trade, but not all trade takes place in markets" (Aspers, 2011: 7). I can trade my coat against something else at a clothing swap, for example, but this does not make it a market because there is only one seller and one buyer. A market place, on the other hand, is "the socio-material infrastructure located in space that makes possible market transactions" (Aspers, 2011: 107) – e.g. a public place at a certain time for a farmer's market, an auction room, or eBay's website.

[2] Sandel (2012: 150) tells the story of another strange market. In 2003, the Pentagon launched the Policy Analysis Market, which allowed investors to trade futures contracts on various geopolitical scenarios. The logic, under what was quickly branded by the press as a "terrorism futures market," was to use price trends on that market to predict potential future terrorist attacks.

[3] Who best than Polanyi's biographer to clarify the meaning of a market economy: "an aggregation of such sites [market places] into a system, involving repeated exchanges of commodities; a mechanism that determines the production and distribution of resources through supply-demand feedback; and an institution that coordinates ex post the strategies of multiple traders whereby each is independent, but all are interrelated through their contributions to the process of price formation upon which the behaviour of each depends" (Dale, 2010: 17). In *The Great Transformation* (1944), Polanyi (cited in Dale, 2010: 49) talks of a system where most things are commodified and that is "directed by market prices and nothing market prices."

[4] The Marxian economics scholarship abounds with concepts of commodification. Attempting a synthesis of that line of work, Castree (2003) proposes six steps (privatization, alienability, individualition, abstraction, valuation, and displacement). My four steps are similar in spirit, even though, perhaps, not as accurate as the one of Castree (2003).

(1) *standardised*, that is disembedded from its peculiar, concrete ecological and cultural context (going from *the* farm rabbit with whom I spent my childhood and so on to *a* rabbit comparable to any other),

(2) *quantitative*, that is treated as one unit of something (one full rabbit) or further as 1.2 kilos of meat (going from a rabbit to *one* or *1.2kg of a* rabbit);

(3) *monetised* by bearing a price (going from one rabbit to a *€15* rabbit); and finally, and most importantly,

(4) *privatised* so that its property is attributed to someone who can then decide to pass it on to someone else by transferring either the rabbit itself or just entitlement rights over it (going to a €15 rabbit to *my* €15 rabbit).[1]

Commoditisation is that four-step process of making things *comparable*, *measurable*, *commensurable*, and *ownable* as to be ready for market exchange. What commoditisation does is to extricate symbolic and personal things embedded into relationships from their peculiar and unique context and simplify them for economic exchange – hence the root of the word, a commodity being *commodious*, that is convenient, useful, and ready to be consumed.

Even though, ultimately, anything can become a commodity, different things have different "commodity potential" (Manno, 2000). Manno (ibid. ch.2) ascribes 16 attributes to define whether a thing's commodity potential is high or low.[2] Goods and services with *high commodity potential* are "alienable, excludable, standardized, uniform, adaptable, depersonalized, anonymous, mobile, transferable, international, and context-independent"; and the ones with *low commodity potential* are "openly accessible or difficult to price, context-dependent, embedded, personalised, and localised." For example, oil is more easily turned into a commodity than a magic trick or a fellatio.[3]

That process may be mundane but it is not neutral: we make commodities and commodities make us back. Commodification does not only change the management of a product but also the product itself as well as its users. Turning a thing in a commodity makes us colour-blind in the sense that it reduces the spectrum of qualities we used to perceive in that thing; what used to be a unique and uniquely loved rabbit has become a kilo of dead flesh one trades for a few euros in the supermarket.[4] It is because commodities are disembedded from a

[1] Castree (2003: 279) differentiates between "privatization" and "alienability," defining the latter as "the capacity of a given commodity, and specific classes of commodities, to be physically and morally separated from their sellers." Following her example, organs are private but, most of the time, non-alienable. I here bundle the two concepts into one.

[2] Appropriable, mobile, universal, product-oriented, embedded energy, embedded knowledge or skills, high capital intensity, consumption by individuals, more stable, design resists and/or alters natural flows and cycles, abstract, path-breaking, simple, short-term, efficient, contributes to Gross National Product.

[3] More examples from Manno (2000: 32): "pain medicine has inherently more commodity potential than does massage, insecticides more than pest management, increased energy production more than energy conservation, pollution control more than pollution prevention, Prozac more than counselling, computers more than teachers, [and] cars more than mass transit." The author (ibid. 37) organises them in three categories: *commercial goods* with high commodity potential (e.g. a car), *artisan goods* with medium commodity potential (e.g. public transport), and *common goods* with low commodity potential (e.g. walking).

[4] For readers struggling to identify with my rabbit story, here is another example. Imagine an awful tasting cake that you would eat in two different situations, either in a café straight after purchase or at the house of a friend after she baked it for your birthday. Even though the cake is precisely the same, and assuming the cake tastes awful, one would complain only in the first

cultural and ecological context that we come to think of them in a purely economic way: the lowest the price of rabbit per kilo the better. What commoditisation does is to trim the social and moral fat around a commodity-to-be: "If life, whether human, plant, or animal, is reduced to a calculus of 'efficiency' or 'profit,' then ecological, emotional, and cultural structures are necessarily eliminated, wiping out meaning, diversity, and interactional richness, and leaving an ecological and emotional desert" (Kidner, 2012: 27). Behind its appearance of abundance and diversity, the supermarket is a social-ecological desert.

By turning the world into commodities, we turn ourselves into buyers and sellers. Markets require market places, which before the Internet constituted a limit to their expansion because you had to actually be somewhere to trade. With the advent of information and communication technologies, any space can now be a market place. People sitting in the subway browsing eBay *act* as buyers and sellers of commodities because they find themselves on an economic stage. Whereas these technologies can be said to only facilitate trading, I would argue that they incite it. Who would have thought about renting their apartment on week-ends before AirbnB, trying to sell a talent for furniture assembly before TaskRabbit, or hiring out an unoccupied seat before BlaBlaCar?

With the marketisation of everyone and everything everywhere, people are encouraged to spend more time playing roles, behaving as sellers and buyers rationally reacting to price signals, which in the end renders the *homo economicus* assumption less and less far-fetched. In a world of omnipresent markets, hospitality, generous help, and charity themselves become commodities. People develop what Marx (1867) denounced as "commodity fetishism," namely an obsession with the financial potential of objects and subjects (e.g. buying a house because its value may rise in the future and not because one enjoys living in it, cooperating with another scientist only if it produces knowledge that could be patented and sold). Moneymaking becomes the hegemonic motive for social interaction.

After talking about *commodities* and *trade roles* (and, to some extent, *private property*), I now turn to the two other market institutions: *competition* and *prices*. Although some markets are more competitive than others, there is, by definition, no market without competition. The propensity to compete is a constitutive feature of the part buying and selling actors play. It is not that competition is inherently bad, it is rather than it should be excluded from certain spheres of life (e.g. family, arts, education and research, along with the provision of basic necessities) as well as being constrained in time (e.g. it is fine to compete during a competition, but that process should have an end). My point is straightforward: the competition attitude found within markets should not encroach on the cooperation that is characteristic of other spheres of society.

What about prices? In markets, prices act as conveyors of information in the allocation of different resources.[1] Whereas outside of markets, people usually voice their needs and talents with words, in a market, the prices do the talking. It should take little effort to show that prices, at best, only carry certain information, and can, at worst, even be misleading. Problem occurs

situation. The social sense of politeness and gratitude that held back complains in the second situation has been partly dissolved by the commoditisation of the cake, of course depending where one buys the cake (I have paid for bad chocolate cake for years at my local volunteer-run café without a complaint).

[1] It should be noted that prices also exist outside of markets. For example, a parking fine or university registration fees are also some kinds of prices, albeit set politically and not by the market. To be precise, I will only use the term "price" where referring to a market, monetary measure, and I will otherwise use specific term such as fine, fee, charge, toll, tax, reward, stipend etc., or with a qualifier as in "*political*" or "*socially-determined* price."

when prices become the only signal that informs decision. Bitcoin are mined because they are expensive; it is the same reason that pushes consumers to buy them and to hold on to them. The entire process runs on one single information: the fact that 1 Bitcoin exchanges for €9,038. The question as to whether it is desirable to have and use Bitcoins is never asked. In effect, the market neutralises the social context by rendering the act of exchange autonomous from it. And this is what degrowth criticises, "an economy directed by market prices and nothing but market prices" (Polanyi, 1944: 43).

In the end, we are back to Polanyi's (1944) critique of the market economy and the fact that it dissolves all social relations into one of monetary exchange. "To allow the market mechanism to be the sole director of the fate of human beings and their natural environment […] would result in the demolition of society" (ibid. 73).[1] For the author, what is destroyed is a sense of symmetry (reciprocity), centricity (distribution), and autarchy (self-sufficiency). I am not *self-sufficient* as I rely on buying food at the supermarket where I obtain the products my income allows me to access (*distribution*), and which I purchase without any *reciprocity* involved because the price I pay is supposed to be equivalent to the commodity I get.

Today I can obtain food from the supermarket without entering in any relationship with the producers. Money and markets create commodities but destroy social relations. The commercial system creates this paradoxically nonchalant dependence where I would probably die should the supermarket closes but where I nonetheless express no gratitude whatsoever towards any of the people involved in keeping me well-fed.[2]

This ability to distance oneself from others has both direct and indirect effects. First directly, it becomes easier for the consumer to ignore exploitative conditions of production (e.g. I can buy a pair of H&M socks without encountering any information about the working conditions of the workers who sewed it). The indirect effect is subtler: if, as argued by Graeber (2013) after Mauss (1925), it is the accumulation of small debt relations that hold society together,[3] commoditisation becomes problematic as it erodes this social glue. In fact, the diversity of debt relations (e.g. of a guest to their host, of a student to their teacher, of an audience to their performers, or of a passenger to their driver) is being reduced by the expansion of the realm of commodities. If I can rent an Airbnb, purchase private lessons, buy a concert ticket, and call an Uber, the act of paying replaces a loose social debt with an exact monetary one leading to the death of the logic of the gift.

Every transaction is self-contained in time and space: I give you A, you give me B, we are even. In the logic of the gift (giving, receiving, and giving back) described by Mauss (1925), it is the impossibility of giving back *immediately* and *accurately* that maintains a social link between debtor and debtee. But with money, the transaction *is* the social relation. Money acts as a vessel for economism, dissolves social relations and creates a distance not only between

[1] Dale (2010: 45) notes that one of the original titles Polanyi considered for "The Great Transformation" was "Freedom from Economics."

[2] In the pre-modern societies studied by anthropologist Marshall Sahlins (e.g. 1972), most exchanges of goods and services take the form of gifts. If I were leaving among the !Kung of the Kalahari, I would not be able to purchase any food, I would simply receive it as a gift from someone, and with it the obligation to reciprocate later on in a way deemed honourable by the community.

[3] Here is Sahlins (1972: 205) on the matter: "The exchange that is symmetrical or unequivocally equal carries some disadvantage from the point of view of alliance: it cancels debts and thus open the possibility of contracting out. If neither side is 'owing' then the bond between them is comparatively fragile. But if accounts are not squared, then the relationship is maintained by virtue of 'the shadow of indebtedness,' and there will have to be further occasions of association, perhaps as occasions of further payment."

subjects and objects but also among subjects themselves. In a society where all relations are created via markets, the only debts that remain are towards the banks.

Commodification can reach a point where markets get interlaced with each other. For example, the market for phosphorus is connected to the market for agricultural commodities, which is itself embedded to the market for foodstuffs, and which could be argued to be indirectly intertwined with the market for labour (because supermarkets sell to wage-earning workers and so set a price in consideration of their purchasing power), which is finally itself linked to the market for phosphorus (because workers sell their labour to, let us say, a phosphorus extraction firm at a price that is tolerable for the company to make a profit considering the current price on the phosphorus market). Here it is markets all the way down; like Russian dolls, markets become embedded within other markets to the point where market rationality (i.e. acting as buyers and sellers) become the sole standard mode of interaction within society – hence the appellation *market* or *commodity society*.[1]

This being said, one should not view degrowth as a demonization of markets per se, for once again, it is a matter of proportion.[2] What degrowth opposes is the constant expansion of the commodity domain, or the fact that people must get involved in more and more markets in the business of everyday life. If everyday life has become a business, degrowth argues it should be otherwise. And it also targets the extension of the market place, arguing that certain areas of life should remain market-free, moneyless oases where non-commercial types of interactions can thrive. (The legal interdiction to sell things in the middle of the night or in the middle of the street is an example of such protection against the spreading of markets in time and space.) We now understand why degrowth is so vehemently opposed to expansion-driven economic growth: because it colonises the social and corrupts it with a cold, calculative, and socially corrosive attitude.[3]

The market may be a desirable means of economic coordination, but not in all spheres of life. That much is clear. Markets, degrowth argues, should always rely on some non-market forms of control (e.g. social and moral incentives) to specify the dos and don'ts of market behaviour. A degrowth society would then need to decommodify certain "fictitious commodities" (Polanyi, 1944), or things that should not be managed by the market.[4] This is the point made by Sandel (2012): one should democratically debate about "the moral limits of

[1] "To the extent that a market economy becomes so pervasive that it turns society itself into a marketplace – a vast shopping mall – it dictates the moral parameters of human life and makes growth synonymous with personal as well as social progress. One's personality, love life, income, or body of beliefs, no less than an enterprise, must grow or die" (Bookchin, 1989: 20-23).

[2] In my reading, degrowth does not go as far as the market abolitionism of the Participatory Economics (Parecon), which completely phases out markets on the ground that these are fundamentally anti-social. Here is Hahnel (2016: 132) on the matter: "In every market transaction, the seller is trying to take advantage of the buyer, and the buyer is trying to take advantage of the seller […]. In other words, markets "work" by stimulating greed and fear while undermining trust and solidarity needed to build the economics of equitable cooperation." Or also Albert (2003: 79): "Having a little market in a parecon is a bit like having a little slavery in a democracy, though even less tenable. The logic of markets invalidates the logic of participatory planning and of the whole parecon, and it is also imperial, once it exists trying to spread as far and wide as it can."

[3] "A market economy is a tool […] for organizing productive activity. A market society is a way of life in which market values seep into every aspect of human endeavor. It's a place where social relations are made over in the image of the market" (Sandel, 2012: 10-11).

[4] Polanyi (1944) focused on land, money, and most importantly for him, labour in a way that is still relevant today and Chapter 3 will explore in detail what decommodifying those entails. In retrospective, Polanyi (1944: 184) was ahead of his time: "The economic argument could be easily expanded as to include the conditions of safety and security attached to the integrity of the soil and its resources – such as the vigor and stamina of the population, the abundance of food supplies, the mount and character of defence materials, even the climate of the country which might suffer from the denudation of forests, from erosions and dust bowls, of all which, ultimately, depend upon the factor land, yet none of which respond to the supply-and-demand mechanism of the market."

markets" and collectively decide "where markets serve the public good and where they don't belong" (ibid. 14).

But let us not forget that markets exist for a reason, and if markets are to be minimised, the transfer of goods and services must be organised one way or another. If not via *exchange* on markets, this leaves three other possibilities: *sharing*, *reciprocity*, and *redistribution*. How could these alternative modes of allocation replace markets in a degrowth society? It is this question I now turn to in the remaining parts of this element.

Less markets, more commons

The term "commons" is still suffering from a misunderstanding having to do with its misuse by American ecologist Garett Hardin in his famous *Tragedy of the commons* (1968).[1] In this dissertation, I follow Bollier (2014: 166) when he describes commons as "system(s) of governance, resource-management and sense-making." (It is then different from the usual use of the term in economics, namely a common-pool resource.) The term has also been developed into a broader ideology, which Dyer-Witheford (2007) termed "commonism."

The commons is a mode of provisioning that is alternative to both markets and States and which precedes both of them historically. Bollier (ibid. 15-16, italics added) describes commons as "paradigms that combine a distinct *community* with a set of *social practices*, *value* and *norms* that are used to manage a *resource*." The term *resource* should be understood broadly as to include anything objects of social value. As for *community*, it is simply a group of people in relation with each other – the term "association" used by De Angelis (2017) is perhaps more precise.

Following this definition, any resource can become a commons if there is a community motivated in managing it as such by coming up with a social protocol and abiding to it[2] – that process is referred to as "commoning" (Linebaugh, 2008). As an active verb, commoning is the "ways we relate to each other when using something in common" (Helfrich and Bollier, 2015: 75-79). If *exchange* and *redistribution* are the distinctive logics of markets and States, it is *reciprocity* (and sometimes *sharing*) that characterise the commons.

A resource is not predetermined to be a commons but becomes one through social organisation. If I have access to a specific resource, for example mushrooms in the nearby woods, I become a commoner if I start asking myself two questions: Who else is – or should be – concerned by my use of this resource; and how should we then use it in a way that is deemed fair by everyone. The stock of mushrooms will become a commons once all interested stakeholders assemble to deliberate on a set of rules having to do with their management. "What decision-making is for planning, and pricing is for the market, mutual coordination is for the commons" (P2P Foundation, 2017: 34). In that sense, commoning is a fully fletched alternative to commodification – a good can be either *commonified* (collective coordination as a commons) or *commodified* (collective coordination as a market commodity).

[1] Others have suggested more accurate titles for Hardin's essay: "The tragedy of unmanaged, laissez-faire, common-pool resources with easy access for noncommunicating, self-interested individuals" (Lewis Hyde cited in Bollier, 2014: 25) or "The tragedy of the private exploitation of the commons" (Magdoff and Foster, 2011: 70). Bollier (2014: 27) reports that "Hardin himself later acknowledged that he should have entitled his essay "The Tragedy of an Unmanaged Commons."

[2] "The limit to what can be considered a common good is entirely contextual and political, depending on the political boundaries, imaginative capability and involvement in doing a commons that a community can give itself" (De Angelis, 2017: 63).

Not every mix of *resource* + *community* + *social protocol* is a commons, however. A household, a firm, or a government all have these features without being considered commons. What makes commons distinct is the nature of their social protocol. Euler (2018b: 15) defines a commons as "voluntary and inclusively self-organised activities and mediation of peers who aim at satisfying needs." Analytically, a business is not a commons if employees do not partake in decision-making or if they are forced to do so (*voluntary and inclusively self-organised*). And a voluntary and inclusively self-organised business would still not be a commons if it only strives to maximise profits (*aim at satisfying needs*). The last feature is perhaps the trickiest to evaluate. For De Angelis (2017: 221), a fundamental characteristics of a commons is that it is not subjected to one dominant measure (e.g. GDP, profit, sales) but by a plurality of measures who remain up for deliberation – one could say, after Castoriadis (1975), that commons are autonomous associations.[1]

Wikipedia is a commons as it is an association of readers and writers who manage knowledge (the resource) by setting and enforcing certain rules. But so are some grazing lands, lakes and rivers, as well as student corridor's kitchens.[2] The opposite of a commons would be an enclosed (privately owned), commodified resource whose provision depends on the market, the State, or a mix of both. Again, this can apply to any resource: natural (dams, fish, trees), social (currencies, public spaces, communication networks), and cultural (algorithms, books, universities). It is now usual to differentiate between *traditional* commons (e.g. pastures, fisheries, cooperatives) that used to exist in the distant past and *emerging* commons (often referred to as "new commons") who are unprecedented (e.g. Wikipedia).

The work of American political scientist Elinor Ostrom (1933-2012) remains the default framework for evaluating commons. Ostrom (1990) describes eight "design principles" that facilitate the healthy functioning of a commons: (1) clearly defined boundaries; (2) effective exclusion of unauthorised parties; (3) locally adapted rules regarding the appropriation and provision of resources; (4) collective-choice arrangements that allow most users to participate; (5) monitoring; (6) graduated sanctions for rules violations; (7) easily accessible dispute resolution mechanisms; and (8) recognition by higher-level authorities.

To illustrate, let us translate these design principles for the case of a community currency managed as a commons. The use of a local currency is restricted to a specific geographical area (1). Recognised legally by the state (8), the currency is designed and managed democratically by the association (4) that decides of how the currency can best fit its local context (3). This includes deciding which businesses to include in the scheme and which to exclude (2), how to sanction users who act against the value charter of the association, and monitor monetary flows (5). The currency association can also act as a potential third party for conflict resolution (7). Alternatively, a local currency would not be a commons if the system was either purchased from a private company that would then be in charge of its design and operation, or directly provided by the State with pre-set guidelines to follow.

[1] "One key feature of commoning thus is autonomy: this is a striving of communities to take things into their own hands in respect of certain material or cultural aspects of their (re)production" (De Angelis, 2017: 225).

[2] Bollier (2014) classifies commons in four types: *subsistence commons* (water, forest, fisheries, arable land, wild game), *indigenous people's commons* (indigenous biocultural heritage areas), *social and civic commons* (e.g. time banking, blood donation systems, science), and *business embedded commons* (e.g. consumer or producer cooperatives). It is three categories for Dyer-Witheford (2007): "*ecological commons* (e.g. of water, atmosphere, fisheries and forests); *social commons* (of public provisions for welfare, health, education and so on); *networked commons* (of access to the means of communication)." Helfrich et al. (2009) make a distinction between natural, social, cultural, and digital commons.

Can – and should – all systems of provision be commons? The answer to this question is *no*, and this for four reasons. First, there can be no commons without a clearly identified *resource*. When people dumpster-dive, they see garbage as valuable whereas the supermarket managers view it as a waste. Because of this mismatch of value identification, the two actors cannot engage in commoning together (which does not prevent dumpster-divers from treating garbage as a common goods nonetheless). Second, certain resources are best managed at the national level (e.g. rail, roads, telecommunication networks, police, and education) and can hardly be decentralised in smaller communities. Third, certain commons are likely to be more successful than others and there should be mechanisms of redistribution organised at a superior level (e.g. the State). Fourth, members of one commons might be interested in trading their respective resources with another commons, and for that purpose, a market could well be established. In conclusion: while commons should remain the core economic unit of a degrowth society, there might still exist markets *in between* commons as well as a State *around* both commons and markets.

A few words are needed here to explain better how commons interact with markets and the government. In the hypothetical ideal of an economy perfectly socially embedded, a market or a State system of provision would be a commons if the community had autonomously decided to set it as such with democratic agreement overs its rules (while committing to satisfying needs directly). In that ideal case where commons, markets, and States embrace a similar logic, there is little struggle in between them. But this is not the case today.

The power structure is currently in favour of the market, which is considered a hegemonic mode of allocation. While the government sphere is more ambiguous (sometimes supporting commons, sometimes supporting markets), there is a clear split between the logic of commons and the logic of the market. In fact, commons (often along with the public sphere) are the hunting ground for private capital seeking fresh blood in a process of "accumulation by dispossession"[1] (Harvey, 2003). If degrowth is anti-market, that makes it pro-commons. The transition should be guided by a Rawlsian maximin principle directed towards protecting the existence and assisting the development of the commons. "If they are to interact with markets, they must be able to resist enclosure,[2] consumerism, the lust for capital accumulation and other familiar pathologies of capitalism" (Bollier, 2014). This gives us an additional slogan for degrowth: "less markets, more commons."

Less commodities, more gratuities

Gratuité – or gratuity as we might call it in English – plays a central role in the de-economisation of social life advocated by degrowth. Ariès (2009: 209, mt) sees it as "a war machine against […] the productivist economy," Sagot-Duvauroux (1995: 93, mt) as a "weapon against the subjection of society to the reign of the market," as an "archipelago facing the rising

[1] Marx (1867) called "primitive accumulation" a process whereby direct producers are divorced from their means of production, which becomes the private property of someone who can then benefit from the labour power of this dispossessed population. Harvey (2003) extends the concept into an "accumulation by dispossession" where the privatisation and commoditisation of commons is fundamental for opening new venues for capital accumulation.

[2] De Angelis (2017: 173) defines enclosures as "often violent expropriations of resources held in common and the establishment of state institutions and a legal framework to protect such expropriations."

tide of market relations" (ibid. 118, mt). One could even say that gratuity is the nemesis of economy: it is the attitude of *not* counting, the systematic shunning of money.

This is why degrowth involves a defence and extension of the sphere of gratuity. Gratuity can be of many kinds, comprising, for example, gifts that can either be socially organised (e.g. a public library, education, outdoor lightning, philanthropy), or natural (e.g. the beauty of a sunset, clean air, swimming in a lake).[1] The objective is to protect certain amenities from commodification (e.g. nature, friendship, love) while actively removing others from the market (e.g. healthcare, education, legal services, shelter, food, transport, information).

Here it is crucial to differentiate between two forms of gratuity, one false and one real. The first form of gratuity is false because it exists only to lure people into more consumption. The extra 10% of *free* cereals or the *free* samples given in the street (to make you buy the product), the *free* toy within a Happy Meal (to seduce children), or the *free* trials of Amazon Premium or *free* delivery and return of ASOS (to make you buy more) are nothing but marketing strategies. By definition, a commodity can only be free in the short term, otherwise it ceases to be a commodity. Even Facebook ("it's free and always will be") involves the consumption (via advertisement) and production (via data harvesting) of commodities – involving the "free labour" of users (Terranova, 2000).

Genuine gratuity, on the other hand, describes goods, services, or amenities that are offered unconditionally of – present and future – purchasing power. This includes the *free* items of a *gratiferia*,[2] a Little Free Library, an object-sharing network like Mutum and Sharewizz, or the Magasin pour rien (shop for nothing, mt) in Mulhouse since 2010, the *free* hugs of activists, fare-*free* tram rides, the *free* meals of soup kitchens, the *free* entrance of a museum, or the *free* counselling of a State-appointed lawyer. Ariès (2018: 105-106) divides between three forms of gratuity: private (e.g. love and upbringing), collaborative (e.g. urban gardens in the like of The Incredible Edible[3] project and Couch Surfing), and political (e.g. healthcare and education). From a degrowth perspective, it is only non-commercial gratuity that must be defended and expanded.

Gratuity can be complete or partial (semi-gratuity). Outdoor lightning or the postal service is completely free in the sense that nobody is prevented access. On the other hand, a cinema ticket purchased at student price and social housing are partial gifts for that their *political* gratuity only affects a portion of their *economic* price. The polity can either inflate or deflate an already existing market price (e.g. carbon-taxed electricity and bus ticket for job seekers) or set a new "price" altogether outside of any market (e.g. congestion charge, parking fines, social value of carbon).

Like light and darkness, gratuities and commodities define each other: is commodified only what is not gratuitous, and is gratuitous only what is not commodified. Societies vary in

[1] Sagot-Duvauroux (2002) differentiates between "*gratuités pré-marchandes*" (pre-commodified gifts) for what is not – or not yet – marketed (e.g. sex, clean air, organs) and "*gratuités post-marchandes*" (post-commodified gifts) for the ones that have left the market (e.g. schools, garbage system, public roads). Gerber and Gerber (2017: 551) propose a similar division between "non-commodities" and "decommodified" goods and services.

[2] *Gratiferia* (*donnerie* in French) is a Spanish term describing a non-commercial fair where people give each other goods and services with no expectation of reciprocity – it is basically like a flea market for free items. The idea was initiated in 2010 in Bueno Aires by Ariel Rodríguez Bosio who improvised a free garage sale in solidarity with people who could not afford to buy anything. The practice was quickly picked up by anticapitalist movements around the globe and is now enjoying widespread popularity in France.

[3] The Incredible Edible is an urban gardening project that originated in 2008 in the English town of Todmorden. For more, see Incredible Edible founder Pam Warhurst's 2012 TED talk "How we can eat our landscapes."

the importance they give to each sphere, from the Kwakwaka'wakw of the Pacific Northwest Coast where gift used to prevail to today's Las Vegas where commodities rule.[1]

The term "gratuity" can be misleading and should not be understood in its absolute sense. In a degrowth economy, as in any economy, there will be no free lunch, and paradoxically gratuity must be paid for (this does not apply to natural gratuities like pollination, rain wash, bird songs, and other *nature's contributions to people* which come free of labour). Defending a *free* access to education, healthcare, transport, or water does not make them free in an economic sense, it simply means that everybody in a set community is granted access to these regardless of their individual ability to pay (or in the case of partial gratuity, under certain conditions). It makes them, in other words, free of charge for users at purchase point. Plain to view that teachers still need to be compensated for their time and that syringes still need to be provided by someone, and that, in the end, someone must do the work. The good or service is, in other words, paid for collectively (e.g. via taxes, crowdfunding, or donations)[2] yet free at the point of use for the individual – it has a cost but no price.

This is a suble point that requires further elaboration. Claiming that certain amenities should be free equates to saying that their provision should be organised *politically* rather than *economically*. The fact that a good or service has a cost (in terms of material, energy, and labour) does not prevent it from being free. Sagot-Duvauroux (2002) draws the line between commodity and gratuity using Fromm's (1976) division between *having* and *being*: is gratuitous what I can access by right because of what I *am* (e.g. I am allowed to move around and so I can wander in the woods), and is commodified what I can access because of what I *have* (e.g. I have €150 and so I can visit Disneyland). Direct reciprocity involves gifts (I give you something today and you give me something back tomorrow) and multilateral reciprocity involves gratuity (I have access to things when I need them and I provide things when others are in need). Put another way, gratuity is a way to socially organise gift relations.

The two following examples illustrate that point. When someone is facing trial, society benefits from the work of the selected juries free of charge. Of course, this system relies on an arrangement, namely the fact that everybody accepts to perform such duty should they be asked to do so.[3] Likewise, if a city decides to make its bus system fare-free for residents, the gratuity relies on an agreement concerning taxation (often a rise in private firms' transport contributions).

What these examples demonstrate is that gratuity is a process of politisation of something that was previously economic. One must remember, however, that anything made free requires the design and implementation of an alternative system of provision. Here the slogan "*moins de biens, plus de liens,*" (less goods, more relationships) can be adapted as "less

[1] It should be noted that gratuity is the most ancient institution to coordinate the collective use of resources, and that it still exists for everyone everywhere in the world, if only at home. This tends to be forgotten within the narrative of development where gratuity is depicted as a luxury that can be afforded only after the generation of a surplus on the market. This is not to say that gratuity is possible everywhere; a destitute community cannot organise an education system out of thin air if the resources to do so are not already present.

[2] Seen as such, taxation is the crowdfunding of collective services, a view that differs from the current, negative depiction of taxes as the State capture of the economic value created by individuals.

[3] The same mechanism is also at play in simpler situations. With students who organise the cleaning of their shared kitchen on a rotational basis, for example. The kitchen gets cleaned *free of charge* only because all users decide in turn to clean it *free of charge*.

commodies, more communities," meaning more *political* and less *economical* arrangements concerning the satisfaction of fundamental human needs.

Which goods and services can – and should – qualify for gratuity? Ultimately, everything can be gratuitous; the commodification or gratuity of an amenity is a mere governance issue and has nothing to do with its inherent features. This might be true but it does not bring us far. So let us imagine a rule of thumb: as soon as a good/service/amenity is necessary to exercise a human right, its provision should be organised around moral and social criteria that transcend financial ones. In that sense, it does not depend as much on the type of good but rather on the *need* that it fulfils.

Gratuity allows the primacy of quality over quantities, of use values over exchange values. "Everyone has the right to life, liberty and security of person" (Article 3 of the Universal Declaration of Human Rights), and so therefore there should be no financial reasons to prevent anyone from exercising that right. For short, we could say should be gratuitous what belongs to the "foundational economy" (Arcidianoco et al., 2018), namely goods and services necessary for everyday life by all citizens regardless of income (irrespective of wealth, everyone must eat, drink, sleep, wash, and so on). These should be treated as "universal basic services" (IGP, 2017).[1]

There is another reason why gratuity is relevant for degrowth and that is because it strengthens economic democracy. Gratuity is not only an outcome but also a process. Whereas it does not require any effort to set a unique price on a product (the book is €10 for everybody everywhere all the time), unequal pricing requires agreement within a community (the price of the book fluctuates depending on who is buying it and who is selling it, where, and when). Gratuity is therefore a democratic practice: in elective pricing systems (e.g. *pay-as-you-can*, *pay-as-you-want*, and *pay-as-you-must*), members of a community must discuss adequate levels of contribution. How much should people pay to get access to water? For how much should a printed book sell for? What is the adequate remuneration for time spent emptying the dry toilets? Deciding these matters together is the essence of economic democracy.

Ultimately, gratuity is a way to re-embed the economy in society. Consider a pay-what-you-want pricing. In such a scheme, social and moral concerns are enabled to override financial ones. For instance, if I find myself penniless and in dire need of food, I can still access it *free of charge* (this would not be possible in a standard supermarket). The seller of that food would let a moral and/or social incentive (doing what feels right or what others would consider to be right) override a monetary one. The pay-what-you-want system is a highly decentralised form of socially organised gratuity where participants are granted autonomy in the setting of prices, which is one system among countless possible others.[2]

The ultimate objective of gratuity is equity via social solidarity. Coupled with a take-what-you-need principle, gratuity within commons is a way to organise provision following the old communist adage of "for each according to his ability, to each according to their needs."

[1] For example, healthcare, education, shelter and spaces for activities, food, tools, local transport, and information, as in the Universal Basic Services (IGP, 2017) and Unconditional Autonomy Allowance (Liegey et al., 2013) proposals.

[2] Haggling is a more restrained version of the pay-what-you-want scheme that also constitutes an encroachment of the social into the economic. The possibility to bargain prices shows that they are forces above the market and that prices are ultimately a matter of debate, hence the term *political price*. If the goal of degrowth is to re-embed the financial within the social and the moral, one should not look down at haggling as a primitive, inefficient, and unfair practice, but rather as an important institution for economic democracy.

Degrowth means transitioning, not only from a market society to a market economy (Sandel, 2012: 10), but also from a market economy to an economy with markets (Latouche, 2014a: 56, mt), that is an economy where markets are only used for a few things and are always embedded within limiting extra-economic customs. If not via exchange on markets, most transfers in a degrowth economy will happen via sharing, reciprocity, and redistribution. As an alternative mode of organisation, and in opposition to the tragedy of the commons, degrowth proposes a story of the commons that ends well. Commons are the paragon of communal economies and as such represent the backbone of the economic structure of a degrowth society. In a world governed by commodities, the concept of *gratuity* holds revolutionary power. If degrowth means decommodification, it implies turning commodities into gratuities.

CONSUMPTION

Consumption holds a particularly important place in the provision sequence for without it there would no point extracting, producing, and allocating anything. Ultimately, the whole point of the economy is consumption.

In the degrowth literature, the term "consumption" is negatively connoted for its reference to the purchasing of commodities – hence the slogan "*consommer moins pour vivre mieux*" (consuming less for a better life, mt).[1] In this element, however, I start from a broader understanding of consumption, namely the use of goods and services to satisfy of needs and wants – that is consumption, not as purchase, but more literally in the sense of *consummation*, or more simply termed as *use*.[2]

From a degrowth perspective, it is both the quantity and quality of consumption that should change. The use of material objects, and through them natural resources, should decrease in quantity – this is the *overconsumption problem* addressed by the voluntary simplicity attitude. Second, the economic mentality and culture inherited from commodity-based consumption should also change – this I refer as the *consumerism problem*, for which I offer the solutions of anti-utilitarianism and relational goods.

Frugality against overconsumption

The first charge has to do with the fact that societies who have reached "the age of high mass consumption" (Rostow, 1960) consume too much. In a biophysically (con)strained planet, the intake of some becomes morally problematic if it deprives others from the ability to satisfy their needs. The alternative to over-consumption is quite straightforward: less of it. This corresponds to the idea of voluntary simplicity, an ethic of consumption and a philosophy of living that champions the assumption that less can be more. This attitude towards consumption is the mode of being corresponding to a degrowth society (Alexander, 2011: 205); one could say it is to individuals what degrowth is to society as a whole.

[1] Understanding consumption as commodity consumption, Ariès (2009: 192, mt) goes as far as saying that "objectors to growth do not wish to consume a little or a lot less, they simply wish to stop consuming altogether." Same for Latouche and Harpagès (2012: 58, mt) when they speak of "deconsumption."

[2] (This is what economists understand as *final consumption*, defined in the 2008 version of the System of National Accounts as "goods and services [in the present case either commodities or non-commodities] used by individual households or the community to satisfy their individual or collective needs or wants," p.8.)

The idea behind this element bears many names:[1] voluntary simplicity (Gregg, 1936) or graceful simplicity (Segal, 1999), sufficiency (Princen, 2005), frugal abundance (Latouche, 2006), happy sobriety (Rabhi, 2013), voluntary sufficiency and eco-sufficiency (Heindl and Kanschik, 2016), voluntary sobriety (Arnsperger and Bourg, 2017), freeganism (Oakes, 2000), but also more generally as downshifting, anti-consumerism, post-materialism, minimalism, and simple living.[2] This question has an intellectual history going back millennia. In substance, it captures the ideas of a diversity of thinkers ranging from Lao Tzu and Diogenes, to Francis of Assisi and Henry David Thoreau,[3] who all promoted a similar ethics of consumption and philosophy of living based on "enlightened material restraints" (Shi, 2007: 131) under the belief that values of moderation and frugality were essential to the good life. It is a "limitarian" philosophy as a "principle of prudence and moderation […] the conscious reflection on, mastery, and liberation of [desires]" (Kallis, 2019c: 105).

In coining the term "voluntary simplicity," Richard Gregg, an American lawyer and follower of M.K. Gandhi, described it as "an ordering and guiding of our energy and our desires, a partial restraint in some directions in order to secure greater abundance of life in other directions. […] a deliberate organization of life for a purpose" (Gregg, 1936 cited in Elgin, 1981: 23). In Québec where the idea of voluntary simplicity became popular at the end of the 1990s, the *Office Québécois de la langue française* defines it as "a lifestyle that consists in reducing one's consumption of goods in order to live a life more centered on essential values" (Québec, 2002). Or to put it a more rebellious phrasing: "an oppositional living strategy that rejects high-consumption, the materialistic lifestyles of consumer cultures and affirms what is often just called 'the simple life' " (Alexander, 2015: 116).[4]

Both words here matter. "To live more *voluntarily* is to live more deliberately, intentionally, and purposefully – in short, it is to live more consciously. […] to act in a voluntary manner is to be aware of ourselves as we move through life" (Elgin, 1981: 24, italics in original). Whereas the *voluntary* aspect (one could also say autonomy) is universal, the *simplicity* should vary from case to case depending whether one already meet one's

[1] The term *sufficiency* is closely related to *simplicity*, *frugality*, and *sobriety*. While any of those would have well encapsulated the substance of the argument I make in this part, I have selected *sufficiency* for the following reasons. I prefer *sufficiency* over *frugality* because, even though the term frugal is broadly used among the French *décroissants*, its meaning in English has recently shifted with the neoliberal capture of the term *austerity* (see Chapter 7: *Austerity*). I prefer *sufficiency* over *simplicity* because the latter's common usage is too close from another concept in my framework, namely Illich's *conviviality*. I also prefer *sufficiency* over *sobriety* because being "sober" reminds too much of alcohol consumption. A potential downside of the term *sufficiency* is that it reminds of *self-sufficiency*, another concept often used by degrowther as a synonym to *self-reliance*, or the ability for a household or a village to fulfil its basic needs with minimal interactions with the outside. Repetition is not the only risk as *self-sufficiency* is sometimes associated with *autarky*, especially within extreme right movements (Gorostiza, 2019). Another potential misunderstanding is noted by Princen (2005: 18): *sufficiency* is not *satisficing*, an alternative attitude than maximising conceptualised by Herbert A. Simon. In the context of degrowth, the "voluntary" is redundant because if one abides to the principle of autonomy, any choice of sufficiency is necessarily voluntary in the sense that it cannot be imposed.

[2] Another closely related term is "sustainable consumption," "the use of goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardize the needs of future generations" (Di Giulio et al., 2014: 53) – or, to be more specific, "strong sustainable consumption" (Lorek and Spangeberg, 2014).

[3] Alexander (2011: 188, 2015: 134) provides the following list: Lao Tzu, Confucius, Buddha, Diogenes, the Stoics, Epictetus, Marcus Aurelius, Seneca, Jesus, Mohammad, St Francis, the Quakers, John Ruskin, Williams Morris, the New England Transcendentalists (especially Henry David Thoreau and Ralph Waldo Emerson), the European Bohemians, Tolstoy, Gandhi, Lenin, Richard Gregg, Helen and Scott Nearing, and many of the Indigenous people around the world.

[4] Some other definitions: "an alternative to consumer lifestyles that focuses on reducing and restraining consumption in a spirit of sufficiency, frugality, moderation, restraint, localism, and mindfulness" (Alexander, 2015); "people choosing – out of free will – to limit expenditures on consumer goods and services and to cultivate non-materialistic sources of satisfaction and meaning" (Etzioni, 2004: 408).

fundamental human needs. In the societies that concerns us in this thesis, the general direction is towards unburdening, decluttering, freeing oneself from needless distraction, and unnecessary complicatedness, towards "discover[ing] the ways in which our consumption either supports or entangles our existence" (Elgin, 1981: 147). Ultimately, the goal is some form of inner tranquillity, a life "free from overriding anxiety and ceaseless striving" (Segal, 1999: 160). What should be unburdened is not only the soul but also ecosystems and through them society as a whole: "sufficiency as a principle aimed at ecological overshoot compels decision makers to ask when too much resource use or too little regeneration jeopardizes important values such as ecological integrity and social cohesion" (Princen, 2005: 7).

Why do people embrace voluntary simplicity? Alexander (2011: 190-94) gives four reasons to justify a shift from overconsumption to simple living: *personal* (happiness and meaningfulness), *social* (less work is more time available for community engagement, more relations through sharing), *humanitarian* (concerns for justice over access to resources), and *ecological* (less consumption to reduce environmental impacts). Elgin (1981: 37) boils it down to two motives: "the push of necessity" having to do with the impact of one's lifestyle onto the world, and "the pull of opportunity" representing what is to be gained personally through such a shift (hence her title-description of voluntary simplicity as a mode of living that is "outwardly simple and inwardly rich").[1]

One objective of frugality is to get rid of the pressure to consume as to regain autonomy over the setting of one's life purpose.[2] It is a deliverance from "the tyranny of externally manufactured neediness" (Gunderson, 2018: 10), a "decommoditisation of everyday life" (Manno, 2000: ch.8).[3] Most often, this takes the form of a decoupling of well-being from market consumption and the pursuit of "post-materialistic" (Inglehart, 2000) sources of satisfaction and meaning. "It is a way of 'lightening oneself' as to invite a deeper meaning, less superficial that the one that governs the repetition of everyday life" (Flipo, 2017: 197, mt). It suggests that "by examining afresh our relationships with money, material possessions, the planet, ourselves and each other, 'the simple life' of voluntary simplicity is about discovering the freedom and contentment that comes with knowing how much consumption is truly 'enough' " (Alexander, 2011: 187).[4]

Put simply, voluntary simplicity is the habit of systematically reflecting on the use of one's resources, and especially time: Does earning more money or having more possessions

[1] "a life of creative simplicity frees energy for the soulful work of spiritual discovery and loving services […] a simpler way of life also responds to the urgent needs for moderating our use of the world's non-renewable resources and minimizing the damaging impact of environmental pollution" (Elgin, 1981: 45).

[2] In the spirit of autonomy, what is to be made simple remains a choice of the individual: "[voluntary simplicity] calls for creative interpretations and personalized applications. It is not for 'experts,' therefore, or for anyone, to prescribe universal rules on how to live simply. We each live unique lives and we each find ourselves in different situations, with different capabilities, and different responsibilities […] simple living is not so much a destination as it is an ongoing creative process" (Alexander, 2011: 195).

[3] This is the difference between *frugality* and *thrift*: "*thrift* is essentially a circular process of spending to save and saving to spend. As such, it does not place a restraint on consumption, it merely seeks to save money whilst doing so and then use monies saved to engage in further acts of consumption. […] *frugality* [is] a moral restraint on consumption and a form of resistance to the alleged excess and profligacy of consumerism" (Evans, 2011: 552).

[4] "Personal and social progress is measured not by the conspicuous display of wealth or status, but by increases in the qualitative richness of daily living, the cultivation of relationships, and the development of social, intellectual, aesthetic, and/or spiritual potentials" (Alexander, 2011: 189).

advance or impede the attainment of my life's purpose? If that is so, the solution is "to work less, spend less and rush less" (Andrews, 2006: 215).[1]

The downshifting attitude translates into a variety of practices having to do with *housing* (smaller, more energy-efficient living spaces, co-housing arrangements within one house or among several like in the case of an eco-village, active participation in the building of one's dwelling, use of abandoned or second-hand materials); *food* (simple, local, organic, if possible self-produced, slow,[2] vegetarian or vegan, eating out in moderation, dumpster diving, table-diving, wild foraging); *work* (reduction of working time, meaningful occupation, more human-sized workplaces); *money* (minimisation of its use and importance); *people* (more time spent caring for and with friends and family); *clothing* (rejection of fast fashion,[3] passing fads, and hyper-specialised garments, second-hand clothing, boycotting of brands that advertise aggressively, regaining autonomy over the setting of what should be considered beautiful); *spirituality* (meditation and mindfulness); *science* (slow scholarship and engaged research); and *travelling* (slow travelling, boycotting planes and high-speed trains, biking, car-sharing, mindful walks).[4]

In short, voluntary simplicity is the logic of enough. It replaces imposed scarcity with chosen abundance – this is the "frugal abundance" of Latouche (2006) and the "post-scarcity" of Bookchin (1971).[5] Degrowth revives thinkers such as Sahlins (1972) who argued that scarcity is not a natural state but a social construction and that abundance can be reached via a reasoned, collective selection of what is deemed necessary. *Simplicity* and *frugality* can here be understood as synonyms: an awareness of others (including nature) that informs the self-limitation considered necessary to embrace a non-violent lifestyle.

In that sense, degrowth is not against consumption per se, but rather against a broader culture of consumerism (Etzioni, 2004: 416). It aims to substitute a "being mode of existence" (Fromm, 1976) to the "institutionalized having mode of existence" of consumer society (Gunderson, 2016: 2).[6] And it is to this aspect that we now turn.

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[1] In *The Freeganism Manifesto*, Oakes (2000) summarises this philosophy of consumption: "Before you buy anything, figure out if you can make it, borrow it, do without, fix the one you already have or get it for free somehow. How long will it last, how often will it get used, can you share it with others, can you recycle it or reuse it when it stops working? If it costs $5, ask yourself if it is worth an hour of your life. If not, do without it."

[2] "*Slow Food* is a global, grassroots organization, founded in 1989 to prevent the disappearance of local food cultures and traditions, counteract the rise of fast life and combat people's dwindling interest in the food they eat, where it comes from and how our food choices affect the world around us" (Slow Food, 2018, italics added).

[3] See the *Slow Fashion* movement (e.g. Dickson et al., 2016), *Project 333* which invite people to dress with 33 items or less for 3 months, the concept of keeping a minimalist capsule wardrobe inspired by Caroline Rector's Un-fancy blog, or general insights about fashion and degrowth (Tsagkari, 2019). This attitude of decluttering can be extended to all material items: Kondō (2014) proposes the "KonMari Method" recommending to select items which items to keep based on how much joy they bring.

[4] A short article titled "*10 premiers conseils pour entre en résistance par la décroissance*" (10 first tips to start resisting through degrowth, mt) in the 2003 special edition of *Casseurs de pub* (the French version of *Adbusters*) list several individual actions: (1) get rid of television, (2) get rid of cars, (3) refuse to fly, (4) get rid of mobile phones, (5) boycott large retailers, (6) eat less meat, (7) consume locally, (8) get engaged politically, (9) personal development, and (10) coherence (read: walk the talk).

[5] "Enough! We have enough coal and bread and raiment! Let us rest and consider how best to use our powers, how best to employ our leisure" (Kropotkin, 1898: 14).

[6] "By the *being mode of existence*, Fromm [1976] meant a conscious and meaningful affirmation of life through the exploration and development of the human powers of creativity, critical reason, love, giving and productiveness – the capability of experiencing life in its aliveness. In contradiction, the having mode signified a way of existing where one's identity and character are grounded in what one consumes, owns, retrains and keeps" (Gunderson, 2016: 2, italics added).

Relationality against consumerism

The decision to consume less as an individual is one thing, but the organisation of a system of provision where everybody does so is another. Hence this second criticism which concerns consumerism, the shared imaginary around consumption.

The core belief underpinning consumerism is that money can buy happiness (or any other values) if it is used to purchase commodities, or as summarised by Princen (2005: 141), that "goods-are-good-and-more-goods-are-better." A consumer society is one where that will to consume is a central determinant of social life. The individual of a must-grow society emancipates, matures, and thrives through acts of consumption (one becomes an adult by having a car, becomes a family by owning a house, and so on).

Degrowth does not only propose to consume less (voluntary simplicity), but it also advocates to put an end to the utilitarian logic of consumption. Utility is to consumption what productivity is to production. It is a measure of the efficiency of use: eating an apple while hungry is more *utile* than eating it while replete, in the same way that writing an article in an hour is more *productive* than writing it in two. Utilitarianism, as the mentality that sees the maximisation of utility as desirable, is thus an economic way of thinking about everything one consumes.[1]

It has become common since the creation of the French *Mouvement anti-utilitariste dans les sciences sociales* (Anti-utilitarian movement in social sciences) or MAUSS (1981) to refer to this critical attitude as *anti-utilitarianism*. Anti-utilitarianism means consuming concretely. The difference between abstract and concrete consumption has to do with how one relates to the outcome of this action. *Concrete* consumption has a unique, direct purpose, e.g. I drink water to quench my thirst and I wear this jumper to keep myself warm. *Abstract* consumption sets outcome indirectly by using a proxy, e.g. I drink water to increase my "utility," which is a measurement of how much I enjoy to quench my thirst. The problem with quantitative proxies (here utility, but also profits or GDP) is that they distract from fundamental needs, which are limited, and therefore open the door to unlimited growth.

The anti-utilitarian mentality fits nicely with degrowth's focus on needs and well-being (as opposed to utility and happiness), but there is more. Another aspect of anti-utilitarianism is *collective* consumption. In standard economics, it is individuals and not groups who have preferences. This assumption bears descriptive and normative consequences. First, it follows that social dynamics can be explained by the behaviour of individuals (the *methodological individualism* hypothesis). On the normative side, it places self-interest before collective interest, with the latter understood as an emergent property of the former. Social well-being would then be nothing more than the aggregation of happy individuals. While degrowth does not have much to say on methodological individualism (even though most heterodox

[1] Who else than Chicago economist Gary Becker (1976: 10) to exemplify the utilitarian attitude pushed to the extreme. "According to the economic approach, a person decides to marry when the utility expected from marriage exceeds that expected from remaining single or from additional search for a more suitable mate. Similarly, a married person terminates his (or her) marriage when the utility anticipated from becoming single or marrying someone else exceeds the loss in utility from separation, including losses due to physical separation from one's children, division of joint assets, legal fees, and so forth." Equally strange is Waldfogel's *Scroogenomics: Why You Shouldn't Buy Presents for the Holidays* (2009) who argues that it would be more "efficient" for people to give each other cash instead of buying Christmas presents.

economists studying degrowth would reject it), it actively opposes the primacy of the individual in social life (contra Romano, 2019).[1]

In the commodity-shaped existentialism of the consumer society, what people *are* only depends on what they *have*, which would not be that much of a problem for Castoriadis if consumers were truly sovereign in their choices. Yet, the modern consumer does not really *choose* either to consume or not to consume, or even sometimes what to consume. The choice is predisposed by the existing infrastructure, let it be physical (one cannot choose to buy a car where there are no roads and one cannot choose not to buy one where there are only roads) and mental (if people were fully sovereign in their choices, firms would not waste money in advertisement). So modern consumers only have the illusion of autonomy for their choices are already pre-conditioned; their will and consent is manufactured from outside of themselves (Bernays, 1955).[2]

One crucial aspect of consumerism is that it is an individual practice. One can have a party together but the house in which the party takes place must belong to someone. Because money is detained on private wallets, and because consumption takes place via the purchasing of commodities, commodity consumption is something one ultimately does alone. You can go shopping with your friends but when comes the time to swipe the credit card, it is only you. The idea of individualist consumption implies a separation between the self and its periphery. It is an extractive mentality where to exist, I must *extract* goods, services, and amenities from my environment by buying them. I can see myself as an island (the neoliberal idea of individualism) only if I can access the resources to satisfy my needs without resorting to the assistance of others. In that sense, individualism is a privilege.

One problematic feature of consumerism is that it is competitive. It starts from an assumption of scarcity: if a resource is scarce, and if I expect that someone else might take it if I do not, then I have an incentive to take it myself. As I have shown in Chapter 4, individual consumption turns into a positional competition that is detrimental to nearly all of its participants. This is Jackson's (2009) famous quip: "we are persuaded to spend money we don't have on things we don't need to create impressions that won't last on people we don't care about." This if-I-do-not-take-it-someone-else-will assumption leads to over-consumption, and can only be resolved via communication, deliberation, and the collective setting of rules, as showed by Ostrom in her work on the commons (e.g. Ostrom, 1990).

So consumption is a problem because it is individual and competitive, but what if consumption was instead collective and cooperative? An alternative to individual consumerism would be to acknowledge and reinforce the fact that the main satisfiers of well-being are of a relational nature. Building on the work of Gui (1987) and Uhlaner (1989), several scholars have come to link well-being with what they term *relational goods*, which are goods produced during relational activities (i.e. activities that involves social interaction) such as love and friendship.

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[1] In *Towards a Society of Degrowth* (2019), Romano argues that "far from helping to free our societies from the obsessive utilitarian logic, degrowth contributes, in many ways, to re-confirm a political anthropology unequivocally marked by utilitarianism" (ibid. 34). The author may be right that certain degrowthers (I am thinking here of some voluntary simplicity approaches, like the *happy sobriety* of Pierre Rabhi) focus on the individual too much. But he is surely mistaken in thinking that the concept of degrowth as a whole is utilitarian – a contradiction in terms, as will be obvious to the readers of this dissertation.

[2] If advertisement is vector of heteronomy, then its control or abolition necessary for autonomy. The city of Grenoble, who banned public advertising in 2015, speak of "freedom of reception" (Grenoble, 2014: 7, mt) as the counterpart of freedom of expression, which should leave the choice of whether to receive an information or not to people.

For example, I speak from experience when I say that it is boring to play chess alone. Whereas the quantity of material good (one chess board with pieces) remains the same (environmentally beneficial), the addition of another player renders the activity infinitely more enjoyable (socially beneficial). A chessboard can easily be commercialised, a pleasant chess game with a friend, less so. Unlike the current focus on social exchange value (i.e. prestige), relational consumption would prioritise social use value, that is the direct satisfaction of certain needs through a social activity (for me, basically the enjoyment of ranting about university administration and making prognostics about the next Jurassic Park). Unlike commodities who can only be purchased alone, relational goods can only be enjoyed together.

It is in that sense that Nelson (2010) speaks of a "relational economy," one that maintains "meaningful and ongoing relations among participants […] and between participants and the nonhuman world" (ibid. 8). One could also call it a "culture of connectedness" (Andrews, 2006: 149) where one derives satisfaction, not from the goods themselves, but from the bonding that they enable with others. I want a book to discuss it with my colleagues, a flute to play music with my friends, a telescope to enter in communion with comets, and sturdy shoes to visit the pines and beetles of the forest. What I want is not stuff, it is to enter in "resonance" with the world around me (Rosa, 2019).

This is precisely what should be understood in the slogan "*moins de biens*, *plus de liens*" which I will here translate as "less transactions, more relations." Kallis (2018: 120) captures this idea in the fifth point of his description of an economy after degrowth: "Collective deliberations, public policies and common resources should be directed to questions of friendship and love, healthy sexual and emotional relationships, kinship, paideia [a specific term for life-long, civic education], and politics." This is also the sixth point of Latouche's (2009: 70) "electoral programme for degrowth:" "to encourage the 'production' of relational goods, such as friendship and neighbourliness."

Ultimately, degrowth posits that the economy is of not much value if at the end of the day, there is no more time for the enjoyment of life, let that be chewing *khat* (the leaves of an Arabian shrub) with friends (Gezon, 2017), playing chess in a lively café (my personal favourite), or "doing nothing, like an animal, lying on water and looking peacefully at the sky, 'being, nothing else, without any further definition and fulfilment' " (Gunderson, 2018: 20 citing Adorno, 1951).[1] This is what it is all about: (re)learning how to enter in relation with the social-ecological world around us without the mediation of commodities.

Degrowth is a critique of the consumer society. Anti-consumerism means less in two different ways. To solve the overconsumption problem, the volume of items consumed should be reduced, especially material objects. But from a *voluntary simplicity* perspective, less can also be more, granted the role of commodity consumption is downplayed in social life. Another associated step has to do with how one relates to the goods, services, and amenities one

[1] In a pro-degrowth article, Gunderson (2018) revives the works of Eduard von Hartmann, Emil Cioran, and Theodor W. Adorno to speak of a "quiescent future," of an "idler society" of "inactivity," "inertness, and "rest." The reference to Adorno's (1951) essay ("*Sur l'eau*"), which the author calls "a succinct degrowth imaginary" (Gunderson, 2018: 20), with its idealisation of a state of inactivity ("*Rien faire comme une bête* [doing nothing, like an animal], lying on water and looking peacefully at the sky, 'being, nothing else, without any further definition and fulfilment' " ibid. 156-57) could be misread as a depiction of degrowth as a state of apathy. Gunderson, however, does not mean it that way. For him, the post-growth utopia is a "society with more idleness, rest, and peace and less busyness, work, administered desires, and 'false needs' " (ibid. 24).

consumes and through them, to others. The idea of *relational consumption* comes to challenge the individualist and competitive perception of consumption and invites us to think about consumption as a collective, cooperative way to enter into meaningful relations.

EXCRETION

Excretion[1] is the final stage of economic life: once a material has been extracted from nature, produced into a good or service and allocated to a consumer for use, it must be purged off the economic system.

In political economy, these unvalued are often ignored even though it is them who are at the source of every pollution problem, starting with climate breakdown. Every "emission" is a discharge of something that has ceased to be considered valuable because if it still was, it would have not been let go. The decision to dispose of what used to be a valuable product is as economic as the decision to extract value out of what used to not have any. This is why excretion, I argue, is as worthy of the attention of economists than extraction. The main assumption behind this element is that one cannot expect changing what is considered wealth without changing what is considered waste and that such trash talk is crucial.[2]

The ideology of growth strives for the accumulation of money; it wants to extract more, produces more, sell more, and consume more. In the shadows of that process of value creation exists a process of value excretion. Unwanted fish are thrown back dead at sea, metal scraps and carbon spurts are expulsed from the factory, the unsellable, oddly shaped fruits are dumped in the bin, and all the objects that ceases to function or entertain are discarded away. My point is that the marking of something as valuable renders whatever is at the opposite side of the spectrum valueless. There is, in other words, no wealth without waste and vice-versa.

What this means is that the striving to maximise wealth necessarily comes with a striving to maximise waste. If wealth is defined only as what begets money, then waste will become what does not. This link between treasure and trash literally makes GDP a *gross* domestic product for that the endless pursuit of economic growth soils and marginalises all that cannot be counted in money. This can be seen as a reverse form of extractivism: an *excretivism*.

Waste as the shadow of wealth

What is waste? A European directive of April 2006 defines a waste as "any substance or objects […] which the holder discards or intends or is required to discard" (2006-12-EC, Article 1.1.a). Defined as such, waste is negative wealth, a burden, a form of "disutility" in the jargon of economists. Simply, the waste is that which has lost its value.

The act of excretion results from the devaluation of a thing. In the ordinary business of life, one discards something when it ceases to be useful (e.g. I throw an apple away if it is rotten,

[1] One could also say *disposal*, *expulsion*, or *elimination* but I am "excretion" because I like the metabolism analogy. Choosing a term close from "extraction" is my way of showing that the two actions are similar in nature. *Extraction* is a process of sifting out something that should be taken in while *excretion* is the same separation but for something that should be taken out.

[2] Looking at waste provides an ideal vantage point to understand the shortcoming of the Growth society. In his PhD thesis, Monsaingeon (2017) rebrands the Anthropocene the "*poubellocène*" (garbageocene, mt) arguing that it is through its waste that humanity became a shaping force of nature. One of the claim running through his work is that, after being invented during the industrial revolution [For Monsaingeon (2017: Ch. 1), there existed no such thing as "waste" before the 19th century, in a society where all materials and substances were in constant from one state to another – what some would today call a "circular economy"] the issue of *waste* has been gradually depoliticised and turned into a technical, economic problem.

I get rid of a piece of clothing if it is torn). Of course, usefulness is only one criterion among many others in that decision (e.g. I keep a worn handkerchief because it was given to me as a gift by a dear friend). Problem arises when such behaviour becomes solely motivated by monetary gain (e.g. I throw an apple away if it is oddly shaped and thus unsellable, I get rid of a piece of clothing because it is unbranded and therefore cheap). Again, we fall back on one of the core tenets of degrowth: favouring concrete needs over abstract accumulation.

The notion of waste is material but not only. For example, it can be applied to humans. Certain workers can be treated as disposable factors of production, to be thrown out back into unemployment once the job completed or once they become too old or injured to perform of given task. Workers become interchangeable "just like buttons and batteries" (Ellul, 1988 cited in Latouche, 2013: 66, mt). This is the "disposable people" (Bales, 1999) or "disposable life" (Zizek, 2014), the "*homme inutile*" (useless man, mt) (Giraud, 2015), the "peripheral employment" (Gorz, 1988), or the "supernumerary people" (Castel, 1995). More and more, companies outsource employment to agencies, which diffuses responsibility when employees are fired, allowing them to be used as single-serving factors of production. The logic of giving value to those who generate a lot of money (traders, soccer players, hedge fund managers) consigns those who do not (volunteers, garbage collectors, nurses) to the dustbin of economy.

What is lost in that system is sovereignty over what is considered valuable. The more visible wealth becomes the more invisible waste is. Our dejections are flushed away instantaneously, our garbage picked up every couple of days, our old phones shipped to far away land; the installation of a technical system of waste management has effectively enabled us to forget about our waste (Monsaingeon, 2017: 76). But this logic does not only apply to material waste. Employees are also let go from their companies and beggars kept off the streets. All that "waste" is taken out of sight in a routine manner by a system that considers that-which-does-not-create-money as inapt and inappropriate.

And this is the de-politicising aspect: "to flush or not to flush" is not an ethical dilemma but merely the commonsensical solution to a technical problem (imagine the economy as one of those automatic flushes that would systematically send what is not profitable down the drain). Implicitly, it is assumed that someone's trash must be someone else's treasure, then displacing responsibility at the level of the system as a whole. I fire employees but that means they become available for another firm; I throw away my computer but it means its part can be recycled and used again. This is a story that depicts the economy as a perpetual motion machine where wealth whirls around in all directions.

With individual bins, the act of disposal is made a private practice, isolated from political deliberation. The act of sneaking into someone's garbage is considered an infringement of their privacy; a breach of freedom of excretion. The responsibility for waste is dumped on individual consumers. Not sorting one's waste has become morally condemnable, and in reverse, doing it a source of praise. The problem is that waste became of matter of individual behaviour. This is what is sometime called "eco-citizenship," or a narrative that sees individuals as the driver of societal transformation through everyday changes (turning the light off, taking shorter showers, and so on).[1]

[1] Notice Article 2 of the 2005 French "*Chartre de l'Environnement*" (Environment Charter): "Everyone has the duty to partake in the preservation and betterment of the environment" (mt). This attitude also exists within degrowth circles, where the so-called zero-waste approach of simple livers is source of admiration (e.g. No Impact Man, 2009; Bea Johnson became the idol

What is forgotten in that story is that it is not ultimately individual preferences that set the difference between wealth and waste. If waste is just the shadow of wealth, and if wealth is collectively defined, then such individual handling of disposal is inappropriate.

Planned obsolescence: Waste out, wealth in

It would be amiss to think that the decision to waste or not to waste is only located at the final economic stage of disposal. When it is clear that if extraction or production ceases, then the rest of the stages also come to a halt (no more allocation, consumption, and disposal), it is also the case for excretion: no waste = no consumption = no production.

Waste matters because the longer objects stay in use the lower rates of consumption and therefore the lower rates of GDP growth. If products were to last forever and never become waste, the economic growth of consumer products would only be proportional to the one of population, with relatively little strain on natural sources and sinks. The growth-at-all-costs "solution" to this consumption jamming "problem" is to ensure that products become obsolete faster, or in other words, to plan their obsolescence.

The term "planned obsolescence" was first coined by American real-estate broker Bernard London in a 1932 report titled "*Ending the Depression through Planned Obsolescence*."[1] The author's idea was to have the government supervise the intentional shortening of the durability of products (including in his own line of business, houses and apartments) as to boost consumption in order to fasten economic recovery. London's report is an example of one of the many arguments made in the period between 1928 and 1936 by industrialists, experts in marketing, and designers to reduce the longevity of products for the sake of economic growth.[2]

Planned obsolescence was properly theorised for the first time by Paul M. Gregory in a 1947 academic article. "*Purposeful obsolescence*," he writes, "exists (a) whenever manufacturers produce goods with a shorter physical life than the industry is capable of producing under existing technological and cost conditions; or (b) whenever manufacturers or sellers induce the public to replace goods which still retain substantial physical usefulness" (Gregory, 1947: 24, italics added).[3] In plain language, it means producers intentionally reduce the span of time a consumer would find a product useful – another way to think about it is to see planned obsolescence as an invisible form of inflation (Coudray, 2018).[4]

Libaert (2017: 17-20) differentiates between four main types of planned obsolescence: (1) *direct* by designing a flaw in the product (e.g. placing the capacitor of a television close to a source of heat, designing printer cartridges to shut down before all their ink is used); (2) *indirect* by making a product difficult to repair either technically (e.g. gluing or welding a smartphone's battery or using unusual screws such as the pentalobe used in some Apple

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of the zero-waste movement after the publication of her book *Zero Waste Home* in 2013 where she preaches the five principles of "refuse, reduce, re-use, recycle, and compost").

[1] The term was new but not the practice. As Latouche (2012a: 58) argues in a book on the topic, attempts to falsify or degrade products as to cut costs is as old as trade itself, but what is novel is its systematisation in industry and theorisation in science.

[2] This includes the famous Phoebus cartel, which for nearly two decades (1924-1939) organised a sector-wide reduction of lifespan for incandescent light bulbs (Libaert, 2017: 34).

[3] Planned obsolescence is different from technical obsolescence or the downgrading of certain products because of technological progress (e.g. computer replacing the typewriter).

[4] "we manufacture waste disguised as new products just during the time of their sales" (Coudray, 2018, mt).

products) or economically (e.g. expensive spare parts and lack of repair information); (3) *functional* by making newer products incompatible with older ones[1] (e.g. applications for smartphones and Apple operating systems); and (4) *psychological* by instilling in the buyer "the desire to own something a little newer, a little better, a little sooner than is necessary" (Stevens, 1954), a good example being fast fashion.[2]

The ultimate planned obsolescence was the invention of single-use products. Selling disposal goods ensures that they are purchased again. One of the first disposable item to be sold was cuffs and collars for mean shirts (Monsaingeon, 2017: 73), which were praised by sellers and appreciated by buyers for their time-saving quality. In its annual congress of 1956, a representative of the *Society of the Plastics Industry* announced that the objective should be for products to end up in the bin as fast as possible (Meikle, 1995: 266 cited in Monsaingeon, 2016: 144). These are the social-historical roots of today's throwaway culture.

It was only in the 1960s that such practices would start to be criticised (e.g. Packard, 1960), not least by political ecologists (e.g. Bookchin, 1965). Today, planned obsolescence is widely recognised as an illth by the public and politicians of all stripes (Libaert, 2017: 58-61, 44). In August 2015, France became the first country in the world to adopt a law on the matter (Maitre-Ekern and Dalhammar, 2016: 387). The law on "energy transition for green growth" (n°2015-992) treats planned obsolescence – defined as "any techniques through which a seller would deliberately reduce the lifetime of a product as to increase its replacement rate" (Legifrance, 2018, mt) – as a criminal infraction punishable by up to two years in prison term and a €300,000 fine.

From a degrowth perspective, practices of organised obsolescence are problematic on a number of front having to do with *sustainability*, *consumerism*, *conviviality*, and *autonomy*.

First, a faster rate of replacement requires a faster rate of everything else up the economic chain: commodification, production, and, most problematically, extraction of natural resources and energy, with all the social and environmental harm it entails. From an environmental justice perspective, the (often illegal) export of waste from rich countries to poor, "under-polluted"[3] ones such as the Agbogbloshie's dump for electronic waste in Ghana or the Olusosun landfill in Nigeria is revolting. Although the economic logic might be "impeccable" (in the words of Lawrence Summers), the moral logic is nonetheless nefarious.

Second, it makes people consume more, which reinforces their role of consumers. This is especially true for the psychological obsolescence created via intensive advertisement. Not only is this problematic on an imaginary level by strengthening consumerism but it also translates into real problems when the fast pace of consumption becomes a way to differentiate

[1] This type of planned obsolescence was made famous in a January 2016 class action where a hundred of Americans demanded $5 million to Apple in compensation for the incompatibility between its new operating system (iOS 9) and the iPhone 4S, accusing the firm of deliberately designing iOS 9 to slow down iPhone 4S users as to encourage them to upgrade their phone. In 27 December 2017, the French association "*Halte à l'Obscolescence Programmée*" (Ending Planned Obsolescence, mt) deposed a similar complaint against Apple this time concerning the iPhone 6, 6S, and 7 (for more, see HOP, 2018).

[2] Consider the expansion of gadgets, a specific category of consumer items with an ephemeral *raison d'être* (e.g. the cheap, single-use toys coming with Happy Meals at McDonald's or hidden inside Kinder Surprise's eggs).

[3] This refers to the infamous 1991 memo written and/or endorsed by then chief economist of the World Bank Lawrence Summers: "Just between you and me, shouldn't the World Bank be encouraging more migration of the dirty industrials to the LDCs [least developed countries]? […] I think the economic logic behind dumping a load of toxic waste in the lowest-wage country is impeccable and we should face up to that. […] I've always thought that under-populated countries in Africa are vastly under-polluted. […] The concern over an agent that causes a one in a million change in the odds of prostate cancer is obviously going to be much higher in a country where people survive to get prostate cancer than in a country where under-five mortality is 200 per thousand" (The Economist, 1992).

oneself (the coolest people own the latest products), which fastens the positional treadmill and encourages people to contract unsustainable levels of debt, which then contributes to a wider set of problems.

Also, it lessens conviviality by preventing users from repairing, refurbishing, or remanufacturing their own products (either themselves or with the help of non-certified repairers[1]). If the computer on which I am writing these words were to break down (knock on wood), I would be at the mercy of the manufacturer who holds a monopoly over its repair. The only person who could possibly fix it would only do it for money and in a way that would not teach me anything about how to troubleshoot it myself the next time.

The final issue – and this is my fourth point – is that purposeful obsolescence strips users from the ability to freely set the pace of replacement. If a brand uses advertisement to initiate particular trends, I am made a passive follower of those. Degrowth does not mean the end of fashion or technical improvement for sport gears, it simply reclaims the ability of users to autonomously decide the criteria on which longevity should be based. For example, replacing machines when they no longer work and keeping clothes as long as you – personally and un-alienated from publicity – enjoy wearing them. *Unplanning* obsolescence, if it can be called that, means for users to freely decide when a product should become obsolete.

Durability, sharing, conviviality, and value sovereignty

Technical solutions to counter obsoletism are legion. They ranges from extending the duration of the legal warranty and postponing the reversal of the burden of proof[2]; making practices that prevents repair illegal; designing products to be modular[3]; introducing labels indicating a product's lifespan in numbers of hours of use like it is already done for lightbulbs and candles; setting durability requirements (e.g. currently in place for vacuum cleaners under EU regulations); making spare parts available after purchase and facilitating their 3D-printing; taxing the products with the shortest lifespan; and integrating the full costs of recycling into the product's price.

What makes these supply-oriented, technical changes insufficient is the fact that planned obsolescence is not only technical but also societal, and so that the blame cannot be put on only either producers or consumers. The issue is not only companies trying to maximise their profits or consumers enjoying a buying spree (even though they are other reasons to judge them for doing that), it is rather the symptom of the ideology of growth applied to the production of waste.

What would then be the alternative? For producers, it would mean making products as durable as it is technically and economically feasible. Exit refusals to supply spare parts to repair shops, using irrepleceable components, and designing unrepairable products. To *planned obsolescence* can be substituted *unplanned durability* – the durability being unplanned because

[1] Libaert (2017: 22-23) argues that planned obsolescence puts repairers out of work.

[2] As detailed by Maitre-Ekern and Dalhammar (2016: 391), there still exists wide differences among countries of the European Economic Area: while the legal warranty is of 2 years for the majority of countries (with a reversal of the burden of proof after 6 months), certain countries are regulating forward (3 years for Sweden, 5 years for Norway, Iceland, and Scotland, and 6 years for Ireland, England, Wales and Northern Ireland).

[3] Modular products are easier to upgrade, which prolongs their lifespan (Brunø et al., 2013), they are easier to re-configure and maintain during their usage phase (Nielsen and Brunø, 2013; Pourabdollahian et al., 2014), and they are easier to dissemble, enabling better recycling and reuse (Sabaghi et al., 2016; Go et al., 2015; Tseng et al., 2010).

it should be instinctive to seek durability while making an object. This is, after all, the default position of home-made and artisanal work. Why would I, on purpose, reduce the quality of the outcome of my work? Frank et al. (2010) finds that home-made products tend to have longer lifespan because of a "I-designed-it-myself" effect. I am merely restating what I already said in the anti-productivist element: gains of *durability* (quality-based) should trump gains of *proliferation* (quantity-based).

On the users' side, I can think of three changes. First, it means organising the use of products in a collective manner: Why would every household need a drill or a stepladder when a couple of these could be shared among neighbours? This requires a communal use of certain appliances in the style of the Swedish laundry room shared by the inhabitants of a whole building or district. It can also be done by organising the sharing of objects.[1]

Second, it means regaining the individual or collective ability to repair products. This can be achieved through "repair cafés," a practice made famous by the Dutch environmental journalist Martine Postma in 2009 where volunteers teach users how to fix their products.[2] Together with other "markerspaces," "fab labs," "Restart Parties,"[3] and online platforms like iFixit, these "Do It Together" cultures (Ratto and Boler, 2014: 3-8) and "public site of repair" (Rosner and Ames, 2014: 55) increase the freedom to repair.[4]

The third change is a shift from seeing consumption as the acquisition of a products to seeing it as the use of a service: I do not *own* the washing machine, I am only *using* it. Such behaviour can be accompanied by displaying both selling price and use price (i.e. the average yearly cost associated with the use of a product such as the electricity consumption of a light bulb or the water efficiency of a dishwasher). And also by furthering the "servitisation" of products (Vandermerwe and Rada, 1988) – e.g. contracting tyres by the kilometre instead of selling them outright.

But planned obsolescence is only one tendency of a more general excretivist regime. Products are programmed to break so that they are bought again thereby increasing the profits of the companies producing them, the income of the employees working for them, and ultimately the welfare of everyone receiving transfers from the government, itself financed by taxes on their sales. Underlying this system is the assumption that money is the supreme marker of value. Degrowth challenges this assumption demanding that both waste and wealth be considered "political material" (Monsaingeon, 2016: 236, mt). The politisation of wealth/waste means that the benefits/burdens should be distributed in society following collective deliberation, and not market interactions – dirty talking, literally. Casting a critical eye on what we throw away can lead to a broader reflection on all the other economic stages. In essence, it means regaining sovereignty over the setting of value.

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[1] Examples include *The Freeycle Network* (5,311 groups in more than 110 countries as of June 2019, according to its website) and the *Really Really Free Markets*, the "*gratuiteries*" in France and Québec, "*gratiferias*" (originally in Buenos Aires, but now all over the world), online platform such as *Leboncoin*, *Mutum*, *Ouishare*, *Black Market* and *Recommerce*, among traditional second-hand shops, often organised by non-profit organisations, like *Emmaüs* or *Red Cross*.

[2] 1,500 cafés worldwide (Repair Café, 2018) with 149 cafés in France (Raux, 2017).

[3] Created by the London-based organisation *The Restart Project*, Restart Parties are events where participants can bring broken things for volunteer experts (or "restarters") to assist in fixing them.

[4] Public authorities could facilitate the creation of a professional field of repairers by investing in appropriate education and training (e.g. basic repair classes at school; technical higher-education) and supporting existing repairing businesses, for example by extending Value Added Tax exemption to all repair activities.

The act of urban foraging or dumpster diving is a good example of re-appropriation of waste in a process of commoning. Whereas the fate of the waste usually depends on the manager of the store, dumpster diving associations bring the issue of waste to the forefront for discussion. One can also point to the Feeding 5K initiative, originally in London, but now in many cities all over the world, which has organised more than 40 communal feasts made entirely out of food waste. This free lunch is deeply political: "No one likes to see good food going to waste, at Feeding the 5000 events the public gets to see the scale of food waste first hand and learn that the solutions are delicious." Degrowthers would say, it is an act of collective *dépense*, of collective enjoyment of an accumulated surplus. Talking about dumpster diving on his freeganism manifesto, Oakes (2000) writes: "Don't be afraid to climb in and dig around! Have fun, go with your friends!"

In both cases (dumpster diving and Feeding 5K), relations are built between people and waste and between people *through* waste (one could say that trash becomes a relational good). this is the polar opposite of the hygienist attitude of expulsing "dirty" waste as far from sight as possible.

Human excrement is perhaps the most crucial waste issue. Not only because it is a both a valuable source of nutrients to be re-used in agriculture and a dangerous source of pollution if misplaced in the wild, but also symbolically, because it comes out of us, daily and inexorably. Besides their obvious environmental benefits in terms of energy, water, and resource savings, dry toilets participate in the politisation of waste (and wealth) that degrowth calls for.

Allow me to share a personal anecdote. In the yearly Climate Camp that I attend in Pödelwitz (Germany), pee and shit is always a matter of controversy. The fact that the 1,000+ people of the camp cannot flush their excrements away forces us to collectively plan a system of waste management, both in its technical (where is the waste going?) and social aspect (who should take care of it?). Without wages or coercion, and only running on volunteer labour, the system must function and be fair – it is here a perfect example of politisation and planning.

Let me now take an example that does not involve material waste. In Part III, I will be describing the "*Territoires Zéros Chômeurs de Longue Durée*" (Zero long term unemployment territories, mt), a French job-guarantee initiative creating that guarantees the creation of meaningful jobs for anybody able, ready, and willing to work. What is radical about it is that it runs on the foundational assumption that "nobody is unemployable" (Hédon et al., 2019) while granting autonomy to job-seekers in the definition of what constitutes valuable work. Instead of being treated as economic untouchables, those who have been unemployed for several years are given the possibility to have a say as to what should be produced in the community and how it should be produced. This is a complete reversal of the current neoliberal discourse: people who were considered good-for-nothing, leeching off the wealth created by others (basically the human equivalent of a waste), are now themselves considered a source of wealth. The people and the jobs are still the same; what has changed is the story told about wealth and waste.

Paradoxically, garbage which symbolises the end of value (what is worthless) are being cherished as containing use-valuable resources. Through this re-marking of value lies a radical critique of capitalist valuation, that which discards products as waste as soon as they are devoid of exchange value. "Putting waste back in circulation is a way of bringing disorder to the world: render waste perceptible and intelligible unleashes their subversive power" (Monsaingeon, 2016: 195, mt). Of course, I am not talking here about the pro-growth circular economy where

waste is turned into new commodities allowing an extra cycle of moneymaking. To this circularity of exchange value (which degrowth criticises), I oppose a *circularity of use value*: reusing and recycling waste for the concrete satisfaction of needs. "There is no wealth but life," said John Ruskin (1860: 105), but life does sometimes come out of waste.

Against the neoliberal privatisation of waste, degrowth says we should *waste together*. Using concepts from this chapter: we should treat waste as a commons. Making disposal a private act clears the path for unlimited waste, for a tragedy of the commons. Sharing a garbage means agreeing on rules about what can be thrown away, how much, who is supposed to take out the garbage, and so on. "Before you throw anything away, ask yourself (repeatedly) 'will I ever use this for anything? Do I know anyone who will?' " writes Oakes (2000) in his *Freeganism Manifesto*. This is nothing less than the politisation of the act of disposal, which is a necessary step towards economic democracy.

If obsoletism was deemed desirable in the aftermath of the Great Depression almost a century ago, it is no longer the case, not least from a degrowth perspective. Additionally to being ecologically unsustainable, planned obsolescence reinforces consumerism and jeopardises both autonomy and conviviality. Degrowth demands the end of the "age of adulteration" (Lafargue, 1883)[1] and requires a collective deliberation over what constitutes a waste. If one can speak of a REconomy (repair, reuse, recycling, remanufacture, etc.), it should be understood in the broad understanding of the terms, namely provision where the difference between wealth and waste is a political matter.

Conclusions for Chapter 6

DEGROWTH is a contested term that actively resists definition. It is also a messy academic field swarming with concepts of all kinds. In this chapter, I have synthesised that diversity into one single conceptual framework. The outcome of that process can be summarised in **1 idea**, **3 values**, and **15 principles**.

My choice was to interpret degrowth as a general process of **de-economisation**, that is the reduction in importance of economistic thoughts and practices in society. Applying to situations where the economy has reached a disproportionate size and importance, degrowth involves two movements:

> *Cognitive*: Rejecting the primacy of the economic rationale in the social imaginary. For example, this means downplaying monetary-seeking goals (GDP for governments, profits for firms, and income for individuals) so that activities are framed around a diverse set of social and moral motives and not only around moneymaking.
>
> *Concrete*: If economic growth is a process of expansion or/and intensification of the realm of commodities, degrowth advocates a reversal of this process, namely a *shrinking down*

[1] "At Lyons, instead of leaving the silk fibber in its natural simplicity and suppleness, it is loaded down with mineral salts, which while increasing its weight, make it friable and far from durable. All our products are adulterated to aid in their sale and shorten their life. Our epoch will be called the '*Age of adulteration*' just as the first epochs of humanity received the names of 'The Age of Stone,' 'The Age of Bronze,' from the character of their production" (Lafargue, 1883: chap.III, italics added).

of the market domain and a *slowing down* of the production and consumption of commodities – the purpose being to regain a sense of proportion and harmony between the economy and the society and environment around it.

Degrowth is not de-economisation for its own sake. Instead, it stands in defence of **three universal values**, which should underpin all economic practices in a degrowth society.

Autonomy: A principle of freedom both at the individual level (existentialist self-institution) and at the collective level (directly democratic self-management).

Sufficiency: A rule of distributive justice stating that everyone today and tomorrow should have enough to satisfy their fundamental needs, that no one should have too much in regards to planetary boundaries, and that socially acceptable levels of relative inequality should be autonomously determined.

Care: A principle of non-exploitation and non-violence that promotes solidarity towards humans and non-humans.

The last step consisted in deciding which economy-related institutions would best fit this threefold moral compass. Applying autonomy, sufficiency, and care to the different acts of provision (extraction, production, allocation, consumption, and excretion), I developed what I summarise here as a list of **15 universal principles** regarding provision.

(1) *Resource sovereignty*: Be a steward of nature.
Those making decisions about resource extraction should be the communities who are most directly impacted by these decisions, who are knowledgeable about ecosystems, and who assume the responsibility of stewards towards nature.

(2) *Sustainability*: Never deteriorate supporting ecosystems.
The economy's throughput should remain within the regenerative capacities of renewable natural resources, within the stocks of non-renewable resources that one has morally allowed oneself to consume, and within the assimilative capacities of nature.

(3) *Circularity*: Waste not, want not.
The flow of energy and materials within the economy should remain as circular as possible with the goal of minimising the extraction of virgin resources and the excretion of un-recyclable and unassimilable waste.

(4) *Socially useful production*: What is not needed should not be made.
Being only a means to an end, production should satisfy needs and contribute to well-being.

(5) *Small, not-for-profit cooperatives*: People and planet, not profit.
All businesses should be centred around the pursuit of a social benefit (including ecological missions), be small enough as to allow a directly democratic governance, and take the form of a cooperative.

(6) *Proximity*: Produce local, consume local.

The shorter the distance between producers and consumers the better.

(7) *Convivial tools*: Technology as a tool, not a master.
Technology should be fit for a purpose determined outside of itself. Technology should be democratically manageable, controllable, reversible, and easily intelligible.

(8) *Postwork*: Work less, play more.
The ultimate purpose of economic organisation is to liberate time for non-economic purposes. The time and effort dedicated to activities of provision should be determined autonomously, constitute only a small part of social life, and take place in decent settings, both regarding the condition of work and its finality.

(9) *Value sovereignty*: Wealth is nothing but stories.
The process of economic valuation should always be informed by social and moral values. What is considered "valuable" can vary in from one context to the next, with different values being fundamental incommensurable with each other.

(10) *Commons*: Decide together.[1]
Strategic resources should be managed as commons.

(11) *Gratuity*: Communities instead of commodities.
The provision of goods, services, and amenities determinant for the satisfaction of needs should remain outside of the market domain and be organised politically.

(12) *Sharing*: Sufficiency for all, excess for none.[2]
Any surplus should be treated with caution because it bears the possibility of inequality. When in doubt, liquidate the surplus in a way that benefits the worse off.

(13) *Voluntary simplicity*: Outwardly simple, inwardly rich.[3]
People should regain autonomy over their needs and wants and reflect on the consequences of their consumption. They should pursue non-materialistic sources of satisfaction and meaning and adapt their relation with possessions accordingly.

(14) *Relational goods*: Less stuff, more relationships.
People should consume with, and not against, each other. Consumption should focus on the ends (feelings, friendship, love, etc.) and not on the means (products).

(15) *Joie de vivre*: If I can't dance, I don't want to be part of your economy.
There is no wealth but life (Ruskin). Economic organisation should be a means to guaranteeing *joie de vivre* and life should be lived by enjoying the abundance of nature and culture.

[1] I am borrowing one of the three principles of degrowth from Yves-Marie Abraham's *Guérir du mal de l'infini. Produire moins, partager plus, décider ensemble* (2019).
[2] I am borrowing this title from Cox (2019).
[3] This is the title of Duane Elgin's book *Voluntary Simplicity Toward a Way of Life That Is Outwardly Simple, Inwardly Rich* (1981).

I should end with a disclaimer on originality. Most notions found in these elements are not fundamentally new. The first task in theory building is to distil ideas that are already there and to systematise them into a form that is precise, clear, and fitted to the present context. Yet, the palette of exiting ideas sometimes runs dry and so a second task consists in staring at the silences long enough to fill, where possible, what is missing, or otherwise to just render apparent the bank spaces.

In my attempt at ordering the degrowth toolbox, I strived to achieve a balance between theoretical parsimony and the need to do justice to the complexity of all the ideas gravitating around the term. Essentially, I hope this may contribute to a better understanding of how the different ideas within degrowth interact together. Whether I have achieved this mission, I leave it for readers to decide.

In the same way that Dmitri Mendeleev (1834-1907), the creator of the first widely recognised periodic table, managed to predict some properties of then unknown chemical elements that could come to fill the table, I am hoping that this first sketch of a *table of degrowth elements* will stimulate imagination and invite the creation of new elements.

Chapter 7

Controversies

TRYING to radically change the world exposes change-makers to radical responses from the world itself. Degrowth and degrowthers have been called many names: Malthusians, eco-austerians, civilisation-haters, and collapse-porn addicts (Phillips, 2015)[1]; retrograde, technophobic, an apology of poverty (Kindo, 2015); spiritualist, individualist, apolitical and anti-institutionalist, ruralist, anti-feminist, anti-science (Di Méo, 2006); prophets of climate despair (Krugman, 2014); dirty hippies (Nordhaus, 2019); Heideggerian Hobbits (Robbins and Moore, 2015); eco-barmy (Pastré, 2011); joyful scatterbrains (Scifo, 2008); a hybrid between an extremist ecologism and a variety of childish anti-globalization (Tertrais, 2012); megalomaniacs[2] (Klaus, 2008); a cabal of cave dwellers (Kesser, 2017); an apology of immobilism (Vendrillon, 2009); cultural pessimism (Bruckner, 2012); reactionary (Métellus, 2003); an anti-progress groupuscule (Hulot, 2013); backward-looking (Duval, 2005); an Amish-ification of the world (Phillips, 2019b); a regressive utopia (Kämpfen, 2014); conservative (Reichel, 2015b); a certain route to a closed-minded world and stagnant society (Browne, 2019); supporters of oil lamps and life in caves (Barbier, 2007); a Neanderthalian survival attitude (Lacroix, 2019); dystopian horror (McIntyre, 2014); Blade Runner, Mad Max and The Hunger Games brought to real life (Porter, 2015); sociocide (Wasmer, 2011); madness (Conway, 2019); a suicidal utopia (Jeannet, 2011); insidious (Simard, 2019, mt), pernicious (Rogan, 2017), and relatively dangerous (Di Méo and Harribey); the worst idea on the left since communism (Teixeira, 2019); doomsdayish (Mazzucato, 2020); a toxic discourse (Laurut, 2019); a rationing system unseen since the Nazi occupation (Allègre, 2007); against human

[1] Phillips (2015) remains unrivalled in the creativity of its sneering: "hair-shirted, anti-development greenery" (p.18), "jumble of doom-mongering-left and survivalist-right ideas" (p.24), "the anti-consumerist, back-to-the-land, small-is-beautiful, civilisation-hating, progress-questioning ideology of degrowth" (p.29), "high priest of primitivism and his neo-druidic eco-jamborees" (talking about Paul Kingsnorth, p.33), "Pol-Pot-ian Year-Zero-type regime" (p.84), "intellectual cul-de-sac" (p.85), "poor-hating snobbery" (p.164), "anti-packaging jihadis" (p.218), "a politics of despair" (p.234), "miserabilist" (p.240), "the lifeboat politics of limits to growth" (p.422), "the contemporary degrowth, progress-sceptic, anti-civilisational mood on the green left" (p.428), "anti-universalism, anti-positivism, relativism and science-scepticism […] a project of modesty and regress. […] anti-utopian, anti-rationalist thinking" (p.435).

[2] Vaclav Klaus, then president of Czech Republic, said in a speech at a conference on climate change held in New York on March 4, 2008: "I am afraid there are people who want to stop the economic growth, the rise in the standard of living (though not their own) and the ability of man to use the expanding wealth, science and technology for solving the actual pressing problems of mankind, especially of the developing countries. […] human wants are unlimited and should say so. Asceticism is respectable individual attitude but should not be forcefully imposed upon the rest of us."

nature (Ainsworth, 2010); a reflection of middle-class white desires (Guthman, 2008); a caprice of egoist, spoiled brats (Delhommais, 2006); a general regression of humanity condemned to dry bread and voluntary poverty (Bruckner, 2012); a downsizing of the American dream (Kotkin, 2015); voluntary Third-Worldisation (Bruckner, 2012); a restrictive and impoverishing system (Belzile, 2018); green austerity (Aldana Cohen, 2017); perpetual recession (Boccanfuso and Savard, 2019); a plan to take away prosperity (Tucker, 2019); eco-Tatcherism (Phillips, 2019b); the useful idiots of French economic policy (Ann Moses, 2019); a manifesto for human misery (Rogan, 2017); depressing (Gernelle, 2019); anti-humanity (Levin, 2016); an ascetic plague (Bruckner, 2011); economic and environmental self-flagellation (Lesh, 2019); a society of less and erasure (Genecand, 2019); a conformist alternative (Romano, 2016); super boring (Pethokoukis, 2017); an unsustainable fascism (Vereycken, 2005); the administration of disaster and sustainable submission (Riesel, 2008); a green straitjacket (Brélaz, 2016); an objective worthy of North Korea (Labouchère, 2016); a self-righteous frugality and zeal for the hair shirt (Dale, 2019); charlatans (Oxley, 2004); fake science[1] (Liebreich, 2018); dubious and outdated (Hiler, 2019); a mirage (Ainsworth, 2010); a fantasy (Wacziarg cited in Villano, 2018); a chimera (Teixeira, 2019); a scarecrow (Philibert, 2020); a strange conceptual object (Tremblay-Pepin, 2015); an illusion more than a solution (Clerc, 2008); an organised scam (Anon, 2009b); a moronic ideology (Clerc, 2019); an idiotic craze (Rogan, 2017); a fuzzy-minded misconception (Krugman, 2014); worrisome and unhelpful (Wuttke, 2019); a fragile idea (Fournier, 2018); not a credible alternative (Duval, 2005); an ideology with utterly false foundations (Tertrais, 2012); de-intelligence (Kateb, 2011), unscientific (Huber, 2019a), not so convincing (Mestrum, 2018), or just wrong (McAfee, 2020).

Because one cannot understand an idea without understanding the controversies it creates, the purpose of this chapter is to explore objections to degrowth.[2] I urge readers not to consider this chapter an additional, perhaps almost superfluous, analysis in comparison to the previous one. In fact, despite its more dialectical structure, the present chapter is as theoretically rich and makes a number of points on specific issues that are critical to grasp what degrowth is about. Of course, this is not to suggest that a final answer can be provided to each objection. I do not wish to keep degrowth in a state of "immune monastic impeccability," to use the words

[1] Also: "The point is that when you scratch the surface of any of the seminal tracts of the degrowth movement, you find they are based on the same fake science, right through to the present day" (Liebreich, 2018). For a direct reply to Liebreich's article, see Jackson (2018b) and Dietz (2018).

[2] I refer the reader interested in these issues to three texts. Bayon et al.'s (2010) *La décroissance, 10 questions pour comprendre et en débattre* that answers 10 questions about what degrowth is and is not (what degrowth mean, is it reactionary, why not sustainable development, the end of scientific and technological progress, Malthusian, privation of *joie de vivre*, recession, unemployment, and the end of the market economy, the South, authoritarian, policies for degrowth). Second is Latouche's *Vers une société d'abondance frugale : Contresens et controverses sur la décroissance* (2011), which lists 9 "misinterpretations" (degrowth is negative growth, zero growth or the stationary state, against science and technophobic, a return back to the caves, a return to a communitarian patriarchal age, unemployment, incompatible with democracy, compatible with capitalism, and either right or left) and 9 "controversies" (the scientific basis of degrowth, knowledge economy, decoupling, population, poverty in the Global North, and in the Global South, emergent countries, actors for change, top-down vs. bottom-up transition) – the author has also re-written part of those in the third chapter of *Décroissance* (2019a). And Kallis's chapter on "Controversies, debates and future research" in *Degrowth* (2018) which addresses 8 questions (is degrowth necessary and is it feasible, a slogan that misfires, is a transition possible and what does it involve, is degrowth compatible with capitalism, is degrowth compatible with liberal democracy, can value grow without growth in throughput, is degrowth a Western idea, population and immigration).

of American pragmatist John Dewey (1908).[1] Instead, I see each controversy as a "resource to be treasured, not an impasse to be gotten around" (Fraser, 1994: 595), creating opportunities for degrowth to be self-reflective as to avoid becoming a stiff, sect-like dogma.

A controversy is a situation where actors disagree and where knowledge is not yet stabilised. "[C]ontroversies begin when actors discover that they cannot ignore each other and controversies end when actors manage to work out a solid compromise to live together. Anything between these two extremes can be called a controversy" (Venturini, 2019: 261). Degrowth is a perfect example: some consider it necessary and desirable and others scorn it as extremist and dystopian. What is most interesting about controversies is that they make the social imaginary visible. Like a spark illuminating two colliding rocks in the dark, a controversy is the opportune moment to observe the tension between ideology and utopia.

Picture the field of degrowth as three concentric circles of different sizes. The smallest one on the inside is *the stable core*, a set of relatively consensual arguments about what degrowth is (e.g. democracy, ecological sustainability, equity – pretty much what I have been presenting in Chapter 6). Surrounding the stable core is *the belt of controversies*, a constellation of evolving disagreements on various topics (e.g. the role of the state, spirituality, demography and immigration) – these are the hot controversies. On the outer side lies what is commonly accepted as *not* being degrowth (e.g. recession, sexism, violence, coercion) – these are the cold controversies.

This looks a bit like an avocado, with a hard kernel enveloped by a layer of soft claims themselves bounded by a protective peel. And just like an avocado, degrowth is an alive term in constant interaction with the world around it. This means that the boundaries between these three domains (stable core, belt of controversies, outer ridge) move as the debate evolves. What was previously excluded from and included in degrowth can suddenly become a controversy. And depending on how the controversy is settled, new claims will be pushed either inward towards the stable core of degrowth or outward towards the outer ridge of not-degrowth.

A note on method. This chapter only includes criticisms targeted directly at degrowth. It contains materials from books, peer-review articles, newspapers, blog entries, television appearances, political speeches, and interviews – basically anything as long as it directly criticises "degrowth" (or more rarely "post-growth") named as such. To fully capture the controversies, I try to avoid paraphrasing and rely instead on full quotations as to let authors speak for themselves with minimal intervention on my part. Needless to say, I am not claiming pristine objectivity; this is an affectionate controversy analysis where I am clearly standing in defence of degrowth.

As for categories, I label as *misunderstandings* or *misconceptions* reductionist interpretations where degrowth is criticised based on, what I consider to be, either a superficial reading of the concept or inaccurate knowledge.[2] *Criticisms*, on the other hand, correctly get what degrowth is about, but nonetheless point to weaknesses, incoherence, and contradictions.

[1] Here is the full sentence from Dewey's *Does Reality Possess Practical Character?* (1908, italics added): "Better it is for philosophy to err in active participation in the living struggles and issues of its own age and times, than to maintain *an immune monastic impeccability*."

[2] It should be clear that this division relies on my own reading of the degrowth literature and that others would probably classify some of my misconceptions as criticisms and vice-versa. In fact, I have myself re-classified several misconceptions as criticisms after becoming more familiar with their arguments (e.g. on population, well-being, and application to the global South). Ultimately, the analysis that follows is based on my personal understanding of degrowth and, if not expressly stated, does not reflect a general consensus within the degrowth community.

The frontier between these categories is an easy one to cross. A *misconception* (e.g. degrowth is negative GDP growth) that stands the test of time is likely to turn into a *criticism* (e.g. even if it is not, degrowth makes people think of GDP growth and is thus limited in its ability to escape the economic imaginary of recession).

Each aspect requires its own type of analysis: whereas misunderstandings can be resolved (closing a controversy), criticisms can only be observed. I will pay special attention to contradictions or paradoxes, the "mother of all invention" for Harvey (2014: 3), which I do not consider as dead-ends but rather as opportunities for conceptual innovation. Ultimately, this chapter has one principal ambition: to inject some much needed clarity into degrowth debates.

Misconceptions

Misleading stereotypes are a curse that degrowth has been carrying since always. While there is nothing fundamental preventing such misunderstandings from being clarified, the debate can easily get stuck: detractors say that degrowthers fail to communicate their ideas in a clear and precise manner while the latter retort that it is them who have not 'done their homework' or that they just cannot 'see the point' because their colonised imaginary is blinding them. As a result, the prosecution and the defence do not even manage to agree about their disagreement and most readers are left floating in a swamp of confusion.

It is because both sides are right that it is worth spending some effort in clarifying a few points. What is particularly worth examining are misconceptions that persistently resist debunking and always come back; those, I argue, best illuminate the points of friction between ideology and utopia. In this section, I identify sixteen of them, which I present without a specific ordering. Degrowth being a much abused term, other clichés are merely worth deploring, not exploring – for example the ones arising from dishonesty, malevolence, or a total absence of knowledge about the topic. These I have left out of the chapter.

Zero or negative growth

The downside of the term "degrowth" is that it defines itself against economic growth and so can easily be misinterpreted as its opposite. For example, Milanovic (2017c: 232) asks: "If growth were unnecessary, why wouldn't we celebrate the recession instead of trying to get rid of it?" Recall from Chapter 1, however, that a situation characterised by a decrease in GDP (often called negative growth[1]) has its own name: *recession* if it lasts for months and *depression* if it lasts for years – both these situations being dreaded, and for good reasons. As for situations with low or zero growth, they are referred to as *stagnation*, which in a growth-dependent economy is as desirable as being low or out of food when feeling hungry.

There is a crucial difference between degrowth and these concepts. Degrowth is not equal to recession (contra Husson, 2008), even less to "perpetual recession" (contra Boccanfuso and

[1] The term "negative growth" that certain authors use to describe degrowth (e.g. Harangozo et al., 2018) is misleading as it invites to think of a complex societal transformation with a too simplistic mathematical gradient. (Notice that this is symptomatic of growthism – choking or drowning would not be called "negative breathing.")

Savard, 2019, mt). Japan has not been undergoing a degrowth experiment for the last 20 years[1] and the Global Financial Crisis was not a "real-degrowth experiment" (contra Pathokoukis, 2017). Venezuela is not a pinnacle of degrowth (contra Moukala Same, 2019; Willers, 2019) and nor is North Corea or a large part of Sub-Saharan Africa (contra Melchior, 2016). The secular stagnation is not the actualisation of the post-growth utopia (contra Pastré, 2012), the majority of French people is not "already living in degrowth" (contra Farhangi, 2020), and degrowth is not "a green great depression" (contra Pollin, 2018: 23).

Let there be no misunderstanding: there is nothing worse than a growth-based society without growth (Latouche, 2007: 21; Ariès, 2009: 18; Liegey et al., 2013: 21). And this is why "their recession is not our degrowth" (Kallis, 2015). "A recession is a shrinkage of the existing economy (an economy that requires growth in order to remains stable), while degrowth calls for a shift to a different kind of economy altogether (an economy that does not require growth in the first place)" (Hickel, 2019b: 57). Not just less but different.

At the dawn of the history of *décroissance*, Latouche (mt) was writing in his seminal article of November 2003: "degrowth is not negative growth, a contradictory and absurd expression." Today, almost two decades later, he stills tirelessly repeats the same disclaimer: "degrowth is neither recession nor negative growth" (Latouche, 2019: 4). Be that as it may, the misunderstanding is still alive and kicking:

> " 'degrowthers' think that we are all heading towards general destruction if we do not significantly, and rapidly, lower global GDP" (Métellus, 2003, mt);
>
> "Because we are already today in degrowth, it is called a recession" (Bruckner, 2012, mt);
>
> "who, as a reader, or as a citizen conscious of the ecological crisis and thinking about solutions would not conclude spontaneously: since growth (that is an increase in production) is, supposedly, the source of all ills, degrowth can only be its opposite (a decrease of production)" (Harribey, 2008, mt);
>
> "There is no more debate about degrowth: we are currently enduring degrowth, which generates a series of catastrophes, entire parts of the economy collapsing, people condemned to unemployment" (Cohn-Bendit, 2009: 169, mt);
>
> "I am calling for economic degrowth, a shrinking of the economy, a recession that will last decades or centuries" (Eisenstein, 2011: 258);
>
> "Degrowth loses part of its necessity when a fairer distribution is possible without exacerbating degrowth, that is the recession that many Western countries are currently experiencing" (Lepage, 2012, mt);
>
> "What is degrowth? It is the opposite of economic growth" (McIntyre, 2014);
>
> "de-growth refers to a situation where changes in GDP over time is negative, usually called a recession" (Kaivo-oja et al., 2014);[2]
>
> "The global economic crisis of 2008 has presented something of an awkward problem for some degrowthists, as what they were calling for actually began to happen" (Phillips, 2015: 381);

[1] This was a remark voiced by a Japanese member of the audience during a plenary at the 2016 degrowth conference in Budapest, arguing that Japan "had tried degrowth" and that degrowthers should be aware that it did not lead to the utopia that degrowthers were describing. This misunderstanding is also made by Pollin (2018: 22): "These fundamental problems with degrowth are illustrated by the case of Japan, which has been a slow-growing economy for a generation now." If it is misinformed to ascribe the values of the degrowth movement to Japan, one can still learn from several things as to the governance of a non-growing economy (Pilling, 2014).

[2] The mistake of Kaivo-oja et al. (2014) is inexcusable because their bibliography includes several classics of degrowth that explicitly warn against this mischaracterisation (e.g. Kallis, 2011; Martinez-Allier, 2009; D'Alisa and Cattaneo, 2013; Sekulova et al., 2013; and Latouche, 2009).

"there is now in Europe a country that exemplifies degrowth in practice, it is Greece. Indeed, one can observe a significant slowdown of GDP […]" (Kindo, 2015, mt);

"The celebration of economic stagnation is accepted openly among European greens who support an agenda of 'degrowth'" (Kotkin, 2015);

"In fact, what they [the degrowth movement] are trying to do, believe it or not, is to cause economic contraction" (Levin, 2016: 0min57);

"advanced economies just ran a fascinating, real-world degrowth experiment. It was called the Global Financial Crisis. An economic shock followed a decade of sub-par economic growth. It wasn't broadly popular. Really not all" (Pathokoukis, 2017);

"That is the claim made by the Degrowth Movement, which has argued that the way to improve environmental outcomes (and, in particular, to reach targets for carbon emissions) is to contract aggregate economic activity" (Ravallion, 2017);

"If we assume that, following a degrowth agenda, global GDP contracts by 10 per cent […] that would entail a reduction of global GDP four times greater than during the 2007-09 financial crises and Great Recession" (Pollin, 2018: 21);

"The essential decrease in life satisfaction is registered in the countries whose economic decline (de-growth) continued for three to four or more years. […] results also suggest that radical de-growth approaches (Martinez-Alier et al., 2010; Kallis, 2011) should be avoided […]" (Juknys et al., 2018);

"To say that degrowth is just a new way of approaching things is to wilfully mislead people. It can only mean economic contraction, and all that comes with it" (Paul, 2019);

"I dare you to find a country that experienced recession (an unfortunately not as elegant word to describe degrowth) and improved its social situation. Ask the Greeks and the Venezuelans if they enjoyed to see their GDP degrow" (Willers, 2019, mt);

[Invited on *Radio Canada*, the host asks economist François Delorme to explain what is degrowth] "degrowth is a reduction in the rate of increase of GDP. […] the opposite of growth. […] a degrowth of growth […] a lower growth rate" (Delorme, 2020, mt).

Degrowth authors have their part of responsibility in the matter. Perey (2017: 206, italics added), just like Latouche (2004b) and Whyte (2019),[1] speaks of "a voluntary transition towards a *contraction-based* economy." Here the use of the term "contraction" is clumsy as it is associated with recession. Similar connotation for Burton and Somerville's (2019: 102) "deep economic retrenchment." Equally maladroit is Petschow et al. (2018: 7) talking about "a reduction in economic performance" (the term "performance" carries a positive bias). Cattaneo and Gavaldà (2010: 589) brings unnecessary confusion by writing about a "de-growing macro political-economic system" and Montague (2019, italics added) confuses as well by talking of "deliberately *deflating* or *shrinking* the global economy."

But it gets worse. For Brugvin (2018: 64, italics added, mt), "contrary to recession, degrowth is a *voluntary recession*." Bonaiuti (2012a: 30) calls recessions "real degrowth." Sempere (2017: 47, italics added) writes that "it is absolutely imperative to […] stop growth, *reverse it* and build a sustainable economic foundation." Rosa et al. (2017: 65), authors well-acquainted with the idea of degrowth, nonetheless write about recessions in terms of "factual

[1] "The idea of a *contraction-based society* is just a way to provoke thought about alternatives. To accuse its advocates of only wanting to see economies contract within the existing system rather than proposing an alternative to that system, and to suspect them (as do some counter-globalisation economists) of wanting to prevent the underdeveloped world from resolving its problems reflects at best ignorance and at worse bad faith" (Latouche, 2004b, italics added). (In the same article, the author refers to objectors to growth as "proponents of contraction.") Second reference: in an attempt to rebut Paul (2019), Whyte (2019, italics added) makes a critical mistake: "As with climate disruption, it's clear that *economic contraction (or degrowth, or recession, if you prefer)* can present significant threats to the current economic system."

economic degrowth." Same blunder for Czech and Mastini (2020) introducing the term as "the opposite of growth; that is, recession, shrinkage, or degrowth." Latouche (2010: 519) proposes to translate *décroissance* as "decreasing growth," which would be just as confusing as Stuart et al. (2017: 8) defining degrowth as "a planned reduction in growth."

It unfortunately does not stop there. Abraham (2019b: 78, mt), a famous degrowth author in Québec, writes that limits to technological progress will "necessarily generate *some* degrowth" (the "some" makes degrowth sound like a quantitative decline). Hornborg (2019c: ch.5) walks a dangerous line in talking of an "economic decline" that could be "anticipated," here potentially alluding to both recessions (incorrect) and decommodification (correct). Gunderson et al. (2018: 39) ungainly write of a "degrowing economy," which would have more accurately be described as *the economy of a degrowth society*, a *degrowth economy*, or as Alexander and Gleeson (2018: 19) put it, "degrowth forms of economy." And worst of all: the "What is degrowth?" section of the *Maison commune de la décroissance* website defines the term in a short text that opens with "degrowth is the opposite of growth."

More problematically, degrowth is sometimes talked about in GDP terms. Flipo (2017: 20, italics added, mt) finishes the introduction of a book on degrowth by writing that "each source offers different arguments to sense the urgent need for *a degrowth of GDP*." Ariès (2009: 182) proposes several scenarios for a *GDP-measured degrowth*: "A degrowth of 1% [of the global volume of production] per year saves 25% in 29 years and 50% in 69 years" – a sentence picked up by Harribey (2007b: 3) to criticise degrowth for being inconsistent as to what it actually entails. Gadrey (2009) probes the same ambiguity, this time in Latouche (2007: 90) where it is written that the return to a sustainable ecological footprint would be achieved by a 50% reduction in consumption. Even more contemporary authors fuel the commotion: "A GDP growth (degrowth) of 1% leads to a 0.6% growth (degrowth) of material footprint" (Kallis, 2017c: 7) or "industrialised countries will have no choice but to downscale their economic activity by 4-6% per year" (Hickel, 2017b) – the latter sentence prompted Rogan (2017) to call degrowth an "endorsement of a permanent great depression."

Even Tim Jackson, whom one may expect to be well-read in the degrowth literature, falls straight into the trap. Jackson's "dilemma of growth" or the fact that "growth is unsustainable […] but 'De-growth' is unstable" (Jackson, 2009a: 65) is worded inappropriately. Even though, Jackson acknowledges in a footnote[1] that the degrowth movement has a "wider array of interests," he reduces it to his first denotation, namely de-growth or the inverse of economic growth. Jackson's view is grounded on the assumption that degrowth is a "[planned] reduction in output," as he writes in one of the book's end note,[2] and nothing else.

If degrowth is to be understood as a criticism of the growth/recession dichotomy, one should carefully avoid using growth/degrowth as synonyms for increase/decrease, let it be of GDP or anything else. Indeed, mixing degrowth with negative growth "confuses a recession, i.e., the malfunctioning of a growth system, with the functioning of a no-growth system"

[1] Jackson writes in an end notes: "The terminology of 'de-growth' (*décroissance* in French) emerged in France in 2006 [sic, it was earlier]. As a technical term it refers to (planned) reductions in economic output. As a social movement it seems to have convened a wider array of interests around political and social change (see for example Baycan 2007, Fournier 2008, Latouche 2007, Sippel 2009)" (Jackson, 2009a: 226).

[2] "Growth is unsustainable – at least in its current form. Burgeoning resource consumption and rising environmental costs are compounding profound disparities in social well-being. 'De-growth' is unstable – at least under present conditions. Declining consumer demand leads to rising unemployment, falling competitiveness and a spiral of recession" (Jackson, 2009: 65).

(Spangenberg, 2010: 563). The word *degrowth* describes "not an alternative to growth […] but one to the growth *society*" (Latouche, 2014b: 134, italics added mt). Degrowth is the parenthesis between the growth society and the one liberated from the ideology of growth. Besides, with the explicit goal to escape economism, it would be quite contradictory for degrowth to choose an economic indicator such as GDP as a criterion of success (contra Philibert, 2020).[1] This should reassure detractors who think degrowth fetishizes GDP (see examples below).

> "They [degrowthers] advocate for the diminution of growth or against growth, that is for the diminution of human productive activities and no only its stagnation. An attitude as irrelevant as being in favour of growth" (Di Méo, 2006: 56, mt);
>
> "some argue in favour of explicit anti-growth or 'degrowth' strategies, the latter aimed at reducing the size of the market economy, that is, GDP" (van den Bergh, 2017: 108); "we should not fall in the trap of replacing this by GDP degrowth fetishism (i.e. the GDP degrowth strategy)" (van den Bergh, 2011: 885);
>
> "Some "post-growth" and "degrowth" adherents do question the validity of GDP, and argue for alternative measures etc. But the post-growth and degrowth literature typically proposes reduction or stabilisation of overall "growth" of the "economy" (in other words, it accepts the premise of a single measure of "growth")" (Dean, 2014);
>
> "Promoters of 'economic growth,' together with their opponents (e.g. 'degrowth' and most 'post-growth' adherents), share the same starting premise – that something called 'the economy' has a meaningful single measure ('growth,' GDP, etc.) which should either be increased or not, depending on the respective view" (Dean, 2014);
>
> "Degrowth, then, is most readily defined as decreasing production and consumption in the aggregate as indicated by decreasing GDP" (Czech, 2016: 467);

So to be clear: degrowth is not de-growth. It is not the antithesis of growth but its nemesis, a concept whose raison d'être is to dethrone a mode of thinking that sees everything as either a rise or a fall in GDP.[2] Degrowth cannot become "as socially blind as capitalist growth" (Isakara, 2020) because it is not the quantitative pursuit of less for less's sake. It is precisely this "obsession regarding GDP" that Bartkowski (2014) unwarrantably ascribes to degrowth that should be escaped.

Schmelzer (2016b) says it clearly: "degrowth aims at undoing growth. Undoing growth both at the level of social structures and social imaginaries." Growth is the *symptom* of a specific institutional *syndrome* (Romano, 2019: 4), and it is the syndrome, and not the symptom, that requires critique. Degrowth is "a provocative, performative label and not a literal description of a political-economic strategy focused exclusively on the continued reduction of the GDP index" (Domazet and Ančić, 2017: 157). It is "not a concept symmetrical to economic growth, but rather a defiant political slogan with the objective of reminding people of the meaning of 'limits.' […] *The word should not be interpreted literally*" (Demaria and Latouche, 2019: 149,

[1] Not doing so would be "ironic if, after finally having persuaded neoclassical economists and policy makers to reconsider using GDP as a measure of progress, ecological economists and others in the degrowth community began promoting GDP as an indicator of degrowth, albeit with a different target (-3% per year instead of +3% for example). […] it is not enough to change the target on a bad indicator. The indicator itself needs to be changed" (O'Neill, 2012: 223). Along the same lines, here is Hickel (2018b): "I reject the fetishization of GDP as an objective in the existing economy, so it would make little sense for me to focus on GDP as the objective of a degrowth economy. Wanting to cut GDP is as senseless as wanting to grow it."

[2] "[degrowth] is not an economic depression, nor a recession, but a decline in the importance of the economy itself in our lives and our societies. This is not the decline of GDP, but the end of GDP and all other quantitative measures used as indicators of well-being" (Abraham, 2011).

italics added). "Degrowth isn't about failing to continue to grow. Degrowth is about intentionally not demanding that growth" (Minkjan, 2019). I hope this both reassures Farquharson (2019) who "worr[ies] that degrowth is just a recession with a fancy name" and corrects Rigoulet (2019b, mt) when he calls degrowth "a soft synonym for recession" – it is neither.

Two elements might make this point even more confusing. First, the fact that the first phases of a degrowth transition might occur during a recession (Schneider et al., 2010; Latouche, 2015b; Haapanen and Tapio, 2016: 3497; Bonaiuti, 2017: 1; Jackson, 2009: 15 / 172).[1] Schneider et al. (2010) title their special issue: "Crisis or Opportunity?" Some authors go as far as calling for a crisis, starting with one of the precursors of degrowth François Partant with his 1978 book *Que la crise s'aggrave !* (Let the crisis worsen! mt). Indeed, it is often during times of economic hardship that the dominant model is put into question and that alternative systems of provisions (re)emerge, that is when people go on "commoning against the crisis" (Varvarousis and Kallis, 2017).[2]

For Buch-Hansen (2018), a deep crisis is one of the four prerequisites to a degrowth paradigm shift. Cuba is here the best example, with nation-wide drastic transformations imposed by the collapse of the Societ Union and the American embargo, translating into a 50% GDP cut between 1989 and 1993 (Boillat et al., 2012). Varvarousis (2019) argues that the "stage of suspension" that occurs during a crisis is necessary for the decolonization of the imaginary.[3] For Alexander and Gleeson (2018), only an economic crisis can throw the affluent classes outside of their comfort zones, making them reflect about the nature and consequences of their lifestyle. Likewise, Tsagkari (2017) provides examples from Greece of "planting the seeds of degrowth in times of crisis" and Nyblom et al. (2019: 1) compare the reaction of the Latvian and Icelandic governments to the Global Financial Crisis, arguing that crises are "possible starting points for future degrowth transitions."

Of course, this is not to say that degrowth must necessarily starts from a recession, and it is surely incorrect to define degrowth as a way of "mitigating the risks associated with recessions" (contra Whyte, 2019). Likewise, talking of *planning for recession* – or of an "orchestrated recession" (Delorme, 2020, mt) – is misleading since the goal is not to reduce GDP. A transformation by design is always preferred to one by disaster – the latter being likely not to be voluntary and democratic and thus arguably not even qualify as degrowth. And there

[1] "It should be noted that making an analytical difference between depression and degrowth vision does not guarantee that implementing such a vision would not still induce a depression during the transition process, before all sectors and constituents of the society would be unhooked from growth" (Haapanen and Tapio, 2016: 3497); "Involuntary degrowth, by undermining the system's very capacity to sustain itself, creates the necessary conditions for opening up various possible scenarios, including that of 'voluntary' (or serene) degrowth" (Bonaiuti, 2017: 1); "it is through crisis that we see comfortable suburban middle classes becoming sufficiently perturbed such that the sedative and depoliticising effects of affluence might be overcome" (Alexander and Gleeson, 2018: 175); "a crisis opens up a stage of suspension – a liminal stage – in which experimentation with new personal and collective experiences can transform the destabilization of the social imaginary caused by rapid life changes within crisis into decolonization and finally into self-alteration. This process is accompanied by the emergence of new social imaginary significations that replace the older ones or coexist with them in a contradictory relation" (Varvarousis, 2019: 505); an economic crisis is an opportunity to "invest in change" (Jackson, 2009: 15 / 172).

[2] There is a disagreement between those who see crises as opportunities to experiment (e.g. Varvarousis and Kallis, 2017; Schneider et al., 2010; Schindler, 2016) and others who defend that they intensify the status quo by allowing emergency measures that would have not been tolerable under normal circumstances and which reduces the possibility for alternative practices (e.g. Klein, 2008).

[3] "Degrowth is not negative GDP growth and Greece's crisis is not a case of degrowth, Varvaroussis [2019] recognizes, but if a transition akin to degrowth is to take place in capitalist societies, it will likely start with a crisis, since the capitalist system dysfunctions without growth" (Demaria et al., 2019: 441).

are surely better designs than a coordinated withdrawing of money from the banks, hoping this would make the economic system collapse – this is the "degrowthon" proposal of Viroulet (2019a, 2019b).

The second source of confusion comes from the argument that recessions are good for the environment because slower economic activity translates into smaller resource use and pollution (e.g. Friedlingstein et al., 2010; Paech, 2012: 14; Martinez-Alier, 2010; Kallis et al., 2009: 22), which seems to imply that economic crises contribute to achieving ecological sustainability. This prompts Kuper (2019) to advocate for degrowth because "a long economic depression might be enough to keep the planet habitable."

Let me complicate the matter a bit and give a more specific example of a celebration of recession: the Yellow Vest uprising in the French oversea department of La Réunion, an 866,000-people island east of Madagascar. With an unemployment rate of 25% and falling growth rates, La Réunion is often depicted in the media as a sickly region in economic terms. And yet, an article in the local newspaper *Le Tangue* (Anon, 2018) describes the "the degrowth experiment" (with the word used as synonym for recession) as positive: "Parents and children stay at home, it is Sunday every day. Shall we call this a catastrophe? […] there are less cars, we can finally circulate in cities, we can even cycle or walk. Since last week, La Réunion has undoubtedly reduced its greenhouse gas emissions. Since last week, La Réunion is doing sod all and this is just perfect."

There is much to like in the *Le Tangue* article, which, in my view, captures the spirit of degrowth pretty well. But what it describes is not what most would understand as a "recession"; it is actually a situation of prosperity in the midst of falling GDP. Even though recessions might lower environmental pressures in the short term,[1] they all fail, in the current system, to achieve several other elements of degrowth, starting with justice and autonomy, two goals unlikely to be achieved during an economic crisis. Hopefully, this is enough to show that degrowth is not oblivious to the devastation of recessions (contra Foster, 2011).

Now that the difference between degrowth is recession is clear, let us answer the question at the heart of this controversy: Will degrowth lead to a drop in GDP? To this question, most growth critics answer yes, even though they carefully hedge their position by saying that it should not matter (examples below).[2]

> "degrowth is not about decreasing GDP […] [it] is about creating an alternative, smaller economy, suitable to the physical needs of humans and ecosystems" (Kallis et al., 2009: 23);
>
> "what happens to GDP is of secondary importance, the goal is the pursuit of well-being, ecological sustainability and social equity" (Schneider et al., 2010: 512);
>
> "The goal of sustainable degrowth is not to degrow GDP. GDP will inevitably decline as an outcome of sustainable degrowth, but the question is whether this can happen in a socially and environmentally sustainable way" (Kallis, 2011: 874);

[1] The long term impact of a recession is less certain because investments in environmentally-friendly infrastructures and resource sanctuaries are often the first victims of an economic crisis.

[2] Perhaps, it is because of this ambiguous stance that Paul (2019) calls degrowthers *dishonest*: "Degrowth is not the same as recession, its fans will argue. It is not less of the same. It is more of something different, something better. They will say it is simply borne of a desire to find a different way of measuring progress, taking into account factors like the environment. But that isn't the whole truth, and degrowth fetishists know it. […] To say that degrowth is just a new way of approaching things is to wilfully mislead people. It can only mean economic contraction, and all that comes with it."

"degrowth for optimal macro-economic scale would involve explicitly giving up the pursuit of growth and directly pursuing more specific welfare-enhancing objectives, such as eliminating poverty and protecting the environment, even if this led to lower GDP per capita" (Alexander, 2011: 73);

"GDP is a likely result of degrowth, but not one of its goal" (O'Neill, 2012: 221);

"It is indeed probable that GDP goes down, which would be considered undesirable in a Growth society. But in a post-growth society that leaves nobody aside and where conviviality is restored, this decrease will be considered beneficial […]" (Liegey et al., 2013: 83, mt);

"a post-growth economy would look very different from that advocated by neoliberals as consumption and unsustainable activity would be minimised, probably resulting in the contraction of measurements of wealth such as GDP" (Cattaneo and Vansintjan, 2016: 25);

"If in a 'post-growth' scenario, we go through the exercise of quantifying the changes in the obsolete GDP indicator, these would be negative. Yet, targeting and understanding degrowth at the GDP metrics only is clearly a misreading of the very nature of the term" (Sekulova et al., 2017: 162);

"Considering a decrease in GDP does not mean that degrowth should be reduced to this desire to push GDP down, which would be akin to just invert the current mystification of growth. […] any degrowth strategy consists of a future that involves, among many other things, a decrease in GDP" (Flipo, 2017: 14);

"Although degrowth does not focus on reducing GDP intentionally but on decreasing material and energy throughput, it will result most likely in GDP decline" (Hankammer and Kleer, 2017: 1);

"I do not claim that the scale of the economy, or GDP, *should* shrink. I argue that it will inevitably do so if throughput declines" (Kallis, 2018: 9);

"The wealth of the rich must degrow, our ecological footprint must degrow. Which means there should be a degrowth of ecological footprint and thus of GDP, which is pretty much mechanically associated with it" (Lepesant, 2018: 224, mt);

"I acknowledge that it [scaling down material throughput] is likely to result in a reduction of GDP, at least as we presently measure it. In other words, if we were to keep measuring the economy by GDP, that's what we would see in a degrowth scenario" (Hickel, 2018b);

"*Degrowth* does not mean negative growth but an exit from the logic of GDP growth to prioritize long-term social goals within environmental limits, whichever the implications for GDP, but assuming that this process will probably involve some period of negative growth, at least in high-income countries" (Pueyo, 2019: 3);

"one must reach ecologically sustainable levels (degrow ecological footprint) and since these indicators are correlated to those of economic growth, one must deduce that GDP must go down, and thus also purchasing power" (Lepesant, 2019: 15, mt).

Bottom line: degrowth "entails, but is not reducible to, GDP decline" (Domazet and Ančić, 2017: 159). Indeed, if GDP measures a volume of monetary transactions, and if degrowth involves the partial or total decommodification of goods and services, then it logically follows that degrowth implies a contraction of GDP.[1] This was already clear for Gorz (1982: 122): "If

[1] The assertion by Prieto and Sim (2010: 77) and Lavignotte (2010: 59) about Latouche considering the possibility of a degrowth transition being accompanied by positive rates of economic growth of "3 or 4%" (ibid. 59) is a contradiction. Latouche (2009: 16) indeed writes: "it is possible that, in a first phase at least, degrowth policies paradoxically translate to an increase of production at the macroeconomic level, because of a targeted demand on ecological products and equipment and because of all the jobs that are required for the organisation of a degrowth society." Latouche being the main proponent of escaping the economy, I find such statement surprisingly contradictory. Notive that if this rising demand in necessary goods and services takes the form of commodities, and if degrowth's main objective is to decommodify the satisfaction of needs, then we are here facing a contradiction. Perhaps Kallis (2018: 11) clarifies the question: "GDP will not be measured in a degrowth society, but

good health made it possible to reduce medical expenditure, if the things we use were to last half a life-time without becoming obsolete or worn out, if they could be repaired or even adapted without recourse to specialised paid services, then GNP would of course decline. We would work fewer hours, consume less and have fewer needs." Hornborg (2016: 8) makes this point clearly: "de-growth, i.e. a reduction in the rate of production of goods and services that are conventionally quantified by economists as constitutive of GDP." As Burton and Somerville (2019: 103) write, "managed economic contraction […] isn't the same as degrowth [even though it] is a component of it."

To avoid repeating this sempiternal misunderstanding: a smaller GDP is not a goal but an unavoidable consequence of degrowth. One could say degrowth involves a twofold downfall of GDP: in the *imaginary* (abandoning GDP as an institution), and in *reality* (if we were to measure the transition in terms of GDP, it would indeed go down – even though such measure would fail to capture the social and ecological substance of the transformation). I hope that the arguments presented thus far will be enough to convince readers that the degrowth-as-an-ode-to-recession fable makes little sense.

Synonym with decrease and thus selective

Another downside of the term "degrowth" over a more specific term such as "degrowthism" is that it is used in daily language. Trees grow, foetuses grow, knowledge does grow, and so can environmental awareness.[1] (Eventually, even the growth of degrowth can be said to grow the degrowth of growth.) This leads to a number of misconceptions where degrowth is understood as a decrease of either something overly specific or just about everything, everywhere, and all the time.

Laurut (2019: 5) opens a book supposedly clarifying what degrowth is with the fatuous remark that he has personally embraced degrowth for a long time since the human body starts to deteriorate after age thirty. Several other examples: Rodríguez-Labajos et al. (2019: 177) write: "healthy children grow, staple crops grow, ideas grow, creativity grows, autonomy and sovereignty grow… so why should the South support the idea of not growing?" Chabot (2019: 41) asks what would be the point in applying the logic of sobriety to a maternity ward and Rambal (2017, mt) calls those who decide to shower less "hygiene degrowthers." Finley (2018: 6) defends growth against degrowth in writing that "a society living along social-ecological principles would 'grow' in ways that foster qualitative development and enrichment."

A more specific error is made by Christophe (2017: 59) who misunderstands degrowth as bankruptcy and writes about "an economic society that integrates the notion of degrowth" (ibid. 67, mt) where it is "possible for growth and degrowth to coexist" (ibid. 200, mt), a patent contradiction in terms for the careful degrowth reader.[2] Same blunder for Khmara and

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if it were to be measured, it would in all likelihood be smaller, as the market will recede, nature and labour will be decommodified, people will work less, and exploit one another and nature much less."

[1] Although Kallis (2017f) notes: "perpetual growth is not encountered in nature. Kids and trees grow 'up' – they do not grow at a compound rate ad infinitum. No species grows to infinity, and when a population grows too much and consumes too many resources, it collapses before a new ecological balance with other species is reached."

[2] "At the microeconomic level, degrowth has always existed. Every day, thousands of companies go bankrupt (and therefore degrow) where others are being created" (Christophe, 2017: 59, mt); "Degrowth, in economics, is a natural phenomenon […] it is the famous Schumpeterian creative destruction" (ibid. 11, mt). Christophe's (2017: 63, mt) misunderstanding reaches its peak when he writes that: "being selective about growth means, implicitly, to be selective about degrowth because the sector that are not selected will then stagnate or collapse."

Kronenberg (2017: 17 / 19) when they write that "degrowth does not mean that businesses are expected to continuously shrink, as eventually they would disappear" and that "even a 'degrowth company' […] would still need to have the possibility to grow to some extent."

Stirling (2016a, 2016b, 2016c) argues that degrowth is guilty of the same simplification than growth, failing to differentiate between what should increase (desirable) and what should decrease (undesirable) in the economy.[1] The crux of his argument is that one should differentiates *qualitative growth* (e.g. growth in health, justice, liberty, education, quality of life, etc.) from *quantitative growth* (e.g. hospitals, prisons, courts, or books). Going further, he argues that the degrowth critique risks achieving the opposite of what its objective and reinforce the prevailing hegemony of monetary value over other forms of values – his argument being that "the choices lie not just in 'growth or degrowth,' but in vibrant democratic struggles for 'many-growths' " (Stirling, 2016c), for a "plurality of growings" (Stirling, 2016b).

Roth (2017: 1037) makes a similar contradictory statement in writing that "if the context of growth rather than growth itself is the actual reason for claims for degrowth, then it turns out that, of all things, growth may be the key to degrowth." He continues: "the secret of deconomization is to focus all of our energy not on fighting economic growth, but on growing what we want to grow instead."[2] Similarly, Clerc (2004), Di Méo (2006: 111), Harribey (2008), and Navarro (2013a, 2014) argue that it is not economic growth that is problematic but only certain of its elements.[3] Caillé (2008: 61) assails that "the slogan of degrowth is untenable because the goal is not […] to degrow in general, but only to degrow certain aspects as to better grow in others." Schor (2010: 233) goes the same direction, writing that aggregate growth could have a net positive impact on the environment.[4]

I admit that the misunderstanding is an easy one as degrowth is indeed about reducing a number of things (the first denotation: degrowth-as-decline). Making it even more confusing, it has become common for degrowth authors to speak of a selective downscaling, where some sectors would shrink:

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[1] "And this is a key reason why the 'degrowth critique' seems to me to be so problematic. As presented by Giorgos and others, it can (despite best intentions) too readily act to further concentrate attention disproportionately on the very quantities it aims to target – material consumption and economic value. And this problem is compounded in the way the term 'degrowth' also appears to conflate problems with solutions – appearing to criticise general growth of all and any kinds. Far from subverting the prevailing hegemony of monetary value, then, seeing degrowth this way actually risks reinforcing it. By eliding the undoubted negativities of narrow economic growth with growth in all other kinds of social values, it is as if all growth is necessarily denominated in money. Or it implies that if some aspect of positive societal growth is measurable in money, then this too is bad." (Stirling, 2016a); "growth can be a far more nuanced and subtle process, than this dismal zero sum calculus suggests. But he did not explore this. So beyond the challenge of plurality of values, the degrowth critique also seems in danger of neglecting the multiple complexities of what it can mean to 'grow' " (Stirling, 2016c).

[2] Also: "the higher goals of degrowth will be achieved by a strategic disinterest in the economy and a regrowth of interest in other function systems" (Roth, 2017: 1034). "The secret of *deconomization* is to focus all of the energy, not on fighting economic growth, but on growing what society wants to grow instead" (Roth, 2017: 1042, italics in original). Roth (ibid. 1037) goes even further in doublespeak by writing that "even the strongest advocates of degrowth are not fundamentally sceptical about all forms of growth such as growth in numbers of members of the degrowth movement."

[3] "You can grow economically by producing prisons and tanks and you can grow by building schools and researching how to cure cancer" (Navarro, 2013a, mt); "the concept of degrowth is a caricature. It mixes the idea of a capitalist growth and the idea of production. It does not distinguish between different productions and their uses" (Di Méo, 2006: 111, mt); "one struggles to find in the writings of degrowth theorists a clear distinction between the types of production one should absolutely degrow and the ones that should grow" (Harribey, 2008); "the point of the debate is not growth or no growth, but rather what type of growth, which is a consequence of who control that growth" (Navarro, 2014, mt).

[4] "the rhetoric of degrowth or the steady-state economy obscures a key point about the road to sustainability. The nub of the problem is the transition from a dirty to a clean sector. […] At the moment, business as usual is so large that aggregate growth is on balance destructive. Over time, as the balance between the two sectors changes, growth could have a net positive impact on the environment" (Schor, 2010: 233).

"less high speed transport infrastructures, space missions for tourists, new airports, or factories producing unnecessary gadgets, faster cars or better televisions" (Latouche, 2009 cited in Kallis, 2011: 875);
"armaments manufacturing, coal power stations or the current structure of individual transport" (Neumann and Winker, 2016: 5);
"degrowth of inequality, degrowth of speed, degrowth of advertisement, degrowth of the tyranny of finance, degrowth of gigantism, degrowth of the technoscientific ideology, degrowth of the market sphere, of digital technologies" (Cheynet and Clémentin, 2016: 23-24, mt);
"the fossilistic sectors, individualized traffic, luxuries" (Schmelzer and Eversberg, 2017: 333);
"mining, fossil energy, airline travel, cross-planetary shipping of heavy, low-cost goods" (Robert Paehlke cited in Kallis, 2017: 149);
"the global fossil-fuel industry needs to contract massively – that is, to 'degrowth' […] until it has virtually shut down" (Pollin, 2018: 7-8);
"if we need to degrow, and we do, one easy target is the machine of violence known as the US military […]" (Ajl, 2018);
"number of vehicles required to be produced" (Wells, 2018);
"military personnel, private banks and insurances, advertisement and marketing, entertainment industry, agrochemical and agri-food industries" (Lepesant, 2018: 230, mt);
"polluting firms, extractivism, the advertising industry" (Gerber and Raina, 2018: 3);
"air travel, 'fast fashion,' disposable tech, arms, and of course, the advertising industry" (Hickel, 2019c); "arms trade, SUVs and McMansions" (Hickel, 2019e);
"beef, SUVs, aviation" (Dale, 2019).

While others would expand:

"more place for walking and cycle lanes, smaller houses, less high buildings, more local services, less urban sprawling" (Cochet, 2005: 200, mt);
"public investment in energy conservation, photovoltaic installation, urban public transport, housing rehabilitation, organic agriculture" (Martinez-Alier and Kallis, 2010);
"small and medium scale economic activities (e.g. renewable energies, shared transportation systems) and impoverished groups or regions […]" (Schneider et al., 2010: 512);
"organic gardening, bike repair, coding software, making music, writing fiction, producing radio shows, painting a mural" (Carlsson and Manning, 2010: 925);
"growth in good jobs and in the incomes of the poor; growth in availability of health care and the efficiency of its delivery; growth in education, research, and training […]" (Speth, 2012: 183);
"the care economy, renewable energies, sustainable agriculture etc." (Schmelzer and Eversberg, 2017: 332);
"cooperatives, gardens, community-based organizations" (Gerber and Raina, 2018: 3);
"the writing of love letters" and "amateur gardening" (Harper, 2019);
"better public transport, insulated homes, cleaner air, more self-governed time, less hierarchy" (Dale, 2019).

Although one could hardly disagree with the objective here, I find this to be a confusing rhetorical strategy. I risk pedantry in saying that "degrowth" and "degrow" should not be used as synonyms for decrease, let it be as a noun or as a verb. The term "growth" being so value-laden already, my choice in the thesis has been to treat "degrowth" as a distinctive word, and

not as a synonym for decrease, shrinkage, contraction, reduction, diminution, abatement, decrement, decline, and all the others.[1] This is necessary to avoid dangerous semantic situations like these ones (unless stated otherwise, all added italics are mine):

> "The film *The Matrix* shows a materially *de-grown* society in the far future" (Cattaneo and Gavaldà, 2010: 588);
>
> "An economy that is able to *degrow* can also enter a steady state of constant production and consumption with low-level, highly efficient resource use" (Exner and Lauk, 2012);
>
> "The Great Recession triggered by the global economic crisis is an example of *exogenous degrowth* by 'disaster,' as it is imposed on societies by the collapse of the financial system. By contrast, degrowth promoters believe in an endogenous contraction by 'design': through a set of voluntary and coordinated macro- and micro-level policies" (Fioramonti, 2013: ch.4);
>
> [In a single paragprah] "Our main goal was the identification of bottom-up unitiatives that could lead to a deep change towards a sustainable *degrowth* economy. […] Our bottom-up approach is part of an organic worldview […] in which small beginning may eventually *grow*. Many elements can stimulate its *growth*" (Bloemmen et al., 2015: 114);
>
> "could this disaster [taking about a hurricane] serve as the trigger of an intentional redirection of the island's development? Could Puerto Rico *degrow*, and in the process bring about a more sustainable society?" (Assadourian, 2017, italics in original);
>
> "some industries will still need to *grow* in a *degrowth* scenario" (Hickel, 2019e, italics added);
>
> "It may already be too late to avoid *degrowth*. We may already require drastic *degrowth*. Or we may require minimal *degrowth*. […] A huge amount of *degrowth* would of course be very painful, but a small amount of *degrowth* in the richest nations could be relatively harmless" (Grainger, 2019);
>
> "Economic *degrowth* can be seen as an immense intellectual, hedonist, humanist, and ecological *growth*. It is not a regression" (Barrau, 2019: 86, mt);
>
> "Many 'degrowers' debate whether it is possible to choose to *degrow*, or if it must occur in the context of a crisis – XR [Extinction Rebellion] may be the force for a chosen, organized, just and joyful scaling down of the economy" (Rezvani and Zantvoort, 2019);
>
> "This solution [efficiency gains through innovation] thus also leads to a dead end, at least from a 'green growth' perspective: it will necessary end up generating some *degrowth*" (Abraham, 2019b: 78, mt);
>
> "We need not lock ourselves into the false dichotomy of 'growth vs. degrowth' where subjectivies, and the social and material content are barely perceptible. Once degrowth is institutionalized, it can easily become as socially blind as capitalist growth" (Isakara, 2020).

That is a lot of growthspeak. Let us clarify: an economy can *grow* (positive GDP), *degrow* (negative GDP), or embrace *degrowth* (as an ideology). (I should note that this propensity to shun all synonyms in favour of "growth" and "to grow" is symptomatic of growthism.) With this in mind, we can now rewrite Latouche in a clearer manner: not the enigmatic "degrowth is only possible in a degrowth society," but "downscaling [real] is only possible in a degrowth [imaginary] society."

This also means I reject Victor's (2008, 2019) division between "degrowth by design" and "degrowth by disaster," Dietz and O'Neill's (2013) "desirable" versus "undesirable

[1] See Odum and Odum (2001: 196) for a list of synonyms: e.g. abate, contract, decession, decline, decrease, diminish, drop, fade, fall, lessen, lower, recant, recede, recess, reduce, shrink, shrivel, slump, soften, subside, and weaken.

degrowth," Molitch-Hou's (2020) "controlled" versus "forced degrowth," Rosa et al.'s (2017: 68) "involuntary degrowth" versus "deliberate post-growth," and Hornborg's (2019c: ch. 5) "intentional" versus "unintentional degrowth." As a societal project, Degrowth is, by definition, *designed*, *desirable*, *deliberate*, and *intentional*.

Same treatment for "sustainable degrowth," degrowth is an aspiration towards ecological sustainability – if it is not sustainable, it is not degrowth. Exact same situation for Perkins's (2019: 188) "equity-oriented degrowth." *The first degrowth is the degrowth of inequality* says one of the slogan of the French degrowth. Degrowth, by definition, is equity-oriented.

I am also critical of other terms such as "degrown futures" (Nordhaus, 2019), "imposed degrowth" (Barrau, 2019: 37, mt), "brutal degrowth" (Coudray, 2010: 10, mt) or its opposite "soft degrowth" (Rigoulet, 2019b, mt), as well as "degrowth sparked by unplanned circumstances" (Paulson, 2017: 427) or "deliberate degrowth" (Gelin, 2019, mt). The often used term "planned," "controlled," or "managed degrowth" is a pleonasm: if degrowth is about re-politisation, it is necessary about planning in the general sense of the term.

Equally maladroit is Velicu (2019) who proposes the concept of "de-growing environmental justice." I am all for strengthening the alliance between the Degrowth and Environmental Justice movements, but I do not think a simple addition of these concepts will do the trick (especially not disregarding the fact that degrowth already relies on specific conceptions of justice).

It is not surprising that outsiders to the field are confused because degrowthers use the term "degrowth" for both a utopian political project (*Degrowth* as a proper noun) and a real process (*degrowth* as a common noun). For example, in a book where Abraham (2019b: 85, mt, italics added) attempts to clarify what Degrowth is about, he still writes about the necessity to avoid "a form of *wild degrowth through suffuring*, consequence of the overshooting of planetary boundaries." Another unnecessary ambiguity is Romano (2019: 73) arguing that Degrowth (the proper noun) should be conceptualised as "a degrowth [common noun] of the modern subject." If what the author means is that people should be less individualistic and more willing to adapt to the needs of a broader community, I do not see the point of framing it in terms of a *degrowth* of something.

Here are a few more examples of degrowthers engaging in obscure (de)growthspeak. Kallis (2017: 4, italics added) takes some risk in writing that "energy and material throughput have to *degrow* […]," about the "*degrowing* use of energy and materials," "a *degrowth* of material and energy consumption is not compatible with GDP *growth*" (Kallis, 2017d: 4, italics added), or about economic activity "hav[ing] to decrease ("degrow") to a scale sustainable by the rate of flow of sunlight" (Kallis, 2018: 27).[1]

Equally perplexing is Cattaneo and Gavaldà (2010) who use the term "material degrowth." Why not avoiding misunderstanding by talking of *material/energy descent*,

[1] Kallis is not alone. Alarcón-Ferrari and Chartier (2018: 1763, italics added) write about "possibilities of a *degrowing* economy." For Lepesant (2018: 224, italics added, mt), "the wealth of the rich must *degrow*, our global ecological weight must *degrow*. This means there should be a *degrowth* of ecological footprint, and thus of GDP, which is pretty much mechanically associated with it," and "an economic *degrowth* means a strong *degrowth* of the tertiary sector" (ibid. 231, italics added, mt). Same for Douthwaite (2012: 187, italics added): "The richer countries of the world do not have the choice of *growing* their economies or *de-growing* them. A declining fossil energy supply will force *degrowth* upon them whether they want it or not and their only choices will be about the way they handle the contraction." And also Gerber (2015: 418): "this would be incompatible with a sustainable *degrowing* economy and possibly also with a steady-state one."

reduction, or *downshifting*? Instead of writing "*degrowing* initiatives" to refer to eco-villages like Mocca (2019: 8) does, let us prefer "*degrowth* initiatives."

The ambiguity of such growthspeak reaches its peak when Abraham et al. (2015) ask in title of their article, "*Comment faire croître la décroissance ?* (how to grow degrowth, mt). This blurs the debate in giving the illusion that degrowth is necessarily less of something while growth would necessarily be more. Cheynet (2008: 59, mt) brings this point with special force: "accusing degrowthers to be in favour of a degrowth of population or of social relations is as dishonest as accusing pro-growthers to be in favour of the growth of crimes or cancers."[1]

This degrowth-of-what ambiguity has formed into an actual notion: "selective degrowth." The selective strategy, which we have just encountered earlier, consists in picking which sectors of the economy should expand or improve, and which one should shrink or disappear.[2] As summarised by Kallis (2015c), it defines degrowth as "fewer of the bad things + more of the good ones." Historically, the term "selective degrowth" emerged as a rhetorical device to diffuse the misunderstanding of degrowth being an across-the-board shrinking of anything and everything (see quotations below).[3] (One can wonder should degrowth had only been used as a proper noun, if there would have been any confusion in the first place.)

> [even in a degrowth society] "certain […] economic activities (e.g. renewable energies, shared transportation systems), and impoverished groups or regions may still selectively need to grow" (Schneider et al., 2010: 512);
>
> "Post-growth as a concept does not imply that all sectors of the economy need to shrink. Growth in selected fields is actually required to transition to a post-growth society" (Kunze and Becker, 2014: 52);
>
> "the paradigm of economic degrowth does not mean stagnation, but a more rational and balanced growth with respect to natural resources" (Guercio, 2015);
>
> "Degrowth will be selective and will involve increases in some things and decreases in others, together with many qualitative changes" (Kallis, 2018: 152);
>
> "While taking a clear stance against coal mining, the weapons industry, nuclear power, and most of the chemicals industry, degrowth proponents decidedly advocate for certain sectors (care, renewable energies etc.) which still have to grow, or, as degrowth proponents would rather put it, *flourish*" (Dengler and Seebacher, 2018, italics in original).

One might argue that this is only a semantic subtely and that I am overstating my case. And yet, the *selective degrowth* approach has three pitfalls.

First, it is prone to remain prisoner of quantitative magnitudes. Whereas qualities change, evolve, or transform, growth is a fundamentally quantitative process. Putting together

[1] A good example of such stereotype is Di Méo (2006: 102 and 114) asking whether cultural production, health, books, newspapers, or vaccines should be subjected to frugality. Equally confused is Prud'homme (2015: 139) who lament degrowthers neglect all the "practices and infrastructures that need to grow." Here, I let Ariès (2005: 69, mt) do the rebuttal: "only a misanthrope would believe that degrowth could be a degrowth of everything for everyone."

[2] Historically, this selection strategy was actually the short-lived predecessor of the current grow-everything-strategy. "The concrete work of the OEEC resulting from the European Manifesto in the 1950s focused on two guiding concepts: "selective expansion" and "productivity." […] selective expansion in certain sectors deemed important for military or balance-of-payment reasons […] selective expansion was a policy of expanding production in certain sectors while curtailing demand in others, both aimed at saving dollars, improving the balance of payments, and at thus reaching 'viability' through sophisticated planning techniques" (Schmelzer, 2016: 127).

[3] My own sense is that the issue has more to do with the misunderstandings emerging from the fact that "degrowth" is both a common noun and a proper noun (the Degrowth movement). Notice that the discussion about capitalism is not about what should and should not be *capitalised* and the one about communism is not about what should and should not be put *in common*.

the words "degrowth" and "selective" makes it difficult to not think about size (same problem for *non-economic growth*). Yet, pressing challenges having to do with food, housing, transport, health, or education are more of a qualitative nature. "Children might need a freer and more holistic, polytechnic education. Patients may need more human contact and care by their doctors. Only under capitalist industrial production do such improvements assume a quantitative dimension (number of patients treated, average exam scores, added money value generated by hospitals and schools)" (Kallis, 2017d: 3).[1] Because degrowth is a criticism of quantitative thinking (economic but not only), "selective degrowth" is a contradiction in terms.[2]

Another problem arises when one assumes that economic growth (either in the positive or in the negative) is the way to achieve those changes. This is the argument put forward by Clerc (2004, mt) in his criticism of degrowth: the relative part of the car industry and road transport, the steel, plastic, and chemical industry in total GDP should shrink in relation to the sectors "contributing to social utility" (e.g. "small businesses, day care, home car, leisure, health, sports, security, consulting, cleaning, justice"). Schwartzman (2016: 107) acuses degrowthers of "lumping all growth into a homogenous outcome of the physical and political economy." Viveret (2004, mt) goes in the same direction arguing that it is not a problem of "quantity of growth" but one of "quality." Mathai (2018: 32) argues for "better targeted economic growth" in the global South. And Milanovic (2017) interprets degrowth as an 80% income cut for the global top decile.

The problematic assumption here is that GDP is indeed a good indicator of social utility. Delorme (2020, mt) rejects degrowth but argues for "limited growth," leaving readers wondering whether he assumes that GDP activities are inherently good but should be *limited* because of ecological sustainability. If France were to privatise its education sector following the American model, the sector would indeed *expand* in GDP terms; if it were to dismantle its cigarette manufacturers into some off-market commons, the sector would indeed *shrink*. The point is that both situations are undesirable, yet evaluating them through a money lens fails to show that they are.

When Pollin (2018: 7, italics added) writes that "some categories of *economic* activity should now grow massively" (talking about clean energy), a degrowther would agree but rectify that these services must not necessary be *economic* in the sense of taking the form of market commodities. This is the difference between a for-profit corporation selling green energy and communities running their renewable energy infrastructure as commons, degrowth leaning towards the latter model of provision. So when Stirling (2016c, italics added) writes that "what is needed is not degrowth, but *outgrowth*" defined as moving needs "out of the straightjacket of narrow economic growth," he is just rephrasing what degrowth is about.

A third pitfall appears when one assumes that the enlargement of one sector always occurs at the expense of another. Addition, however, is not a guarantee of substitution (remember the renewable energies being added on top of fossil sources in Chapter 2). Also, the

[1] Kallis' (2017d: 3) point is a good way to prevent ambiguous sentences, for example here in Latouche (2014b: 139, mt): "Objectors to growth wants the growth of many things: first the growth of joie de vivre, but also more concretely the growth of air quality, of food quality […], of water quality."

[2] This should be enough to stop Roth (2017: 1038) in his tracks when he writes that "degrowth tries to fight fire with fire, which means that degrowth is about using the code of growth against the code of growth." While Roth (2017: 1043) wants to claim "the never-ending pursuit of growth back for society," Kallis (2017d: 3) retorts, and I agree, that"compound growth is an absurd idea, be it growth of good or bad things."

shrinking of an undesirable production might indirectly rebound into another one equally undesirable (e.g. less petroleum, more shale gas).[1] This is why the goal should not be to *grow* the renewable energy, organic food, or collective transport sector, but rather to decide how much energy, food, and transportation is enough, and then to replace the current infrastructure with one that is more adapted. That is, the selection should not start with production but with consumption, or more precisely, with needs. "Perpetual growth, even of organic food is an absurdity. It is time to abandon the idiom of growth and focus on good things that need to flourish to a quantity and quality sufficient for satisfying basic needs" (Kallis, 2017: 155).

Apart from that, the case for shrinkage can also be made without a corresponding expansion. Directly in the sectors that one would want to see disappear (e.g. marketing firms, weapon manufacturers, speculative trading companies, a large swathe of the current pharmaceutical sector, fast food restaurants and energy drinks producers). But also indirectly by freeing space for alternative forms of production to develop. The situation today is not of a free choice between investing in renewable energy, not-for-profit cooperatives, and local currencies as these remain scarce islands among an ocean of investment possibilities in fossil fuels, for-profit corporations, and financial instruments. Assuming that selective shrinkage is equivalent to selective expansion is like assuming that is as easy for an oppressed minority to speak up than for a dominant majority to speak down. If anything, a selective shrinkage strategy should aim at leaving room for minoritarian initiatives by toning down the overwhelming volume of business-as-usual practices.

The central proposition here is that degrowth is not less of the same, but simply different.[2] "The objective is not to make an elephant leaner, but to turn an elephant into a snail" (Kallis et al., 2015b: 4). "A degrowth transition is not a sustained trajectory of descent, but a transition to convivial societies that live simply, in common, and with less" (Demaria, 2019). Even though some like Whitehead (2013: 142) speak of a "downsized world," one would be wrong to think of the film *Downsizing*[3] (2017) as embodying the post-growth utopia. This misunderstanding of degrowth as a *Honey, I Shrunk the Economy* nontheless exists:

> "if its principles were seriously taken up and enacted by corporations, consumers, and governments, the resulting 'degrowth' economy could look like a smaller – but eerily familiar – version of what already exist" (Brownhill et al., 2012: 94);
>
> "Scale rather than capitalism becomes the enemy. It is a petty bourgeois criticism of size rather than a progressive, structural critique of the current organisation of our political economy" (Phillips, 2015: 227);
>
> "the term 'degrowth' also appears to conflate problems with solutions – appearing to criticise general growth of all and any kinds" (Stirling, 2016a);
>
> "Had we embraced degrowth with respect to ozone depletion by attempting to arrest growth in, say, the number of fridges in the world – or even reduce the total number – instead of

[1] "The 'good things to grow, bad things to degrow' argument (Schwartzman, 2012; Torrez Lopez, 2011) mistakes growth, an integrated process, for an accounting convention" (Kallis, 2017d: 8).

[2] "Usually, degrowth is associated with the idea that 'smaller can be beautiful.' […] degrowth signifies a society with a smaller social metabolism but more importantly, a society with a metabolism that has a different structure and serves new functions" (Kallis et al., 2015a: 24); "We should extract, produce and consume *less*, and we should do it all *differently*" (Kallis, 2018: 1, italics in original); "if the 'ever more' of the growth society, then it should be 'something else' " (Flipo, 2017: 202, mt).

[3] "a social satire in which a man realizes he would have a better life if he were to shrink himself to five inches tall, allowing him to live in wealth and splendour" (imdb, 2018). As this synopsis clearly indicates, the film is depicting more of a techno-scientific mean of maintaining the growth society than a utopia of frugality.

> regulation to enforce technology-switching, disaster would have befallen us. Saying 'this many fridges and no more' would only have arrested the *growth* in emissions, not emissions *tout court*" (Phillips, 2019, italics in original);
>
> [Interviewed on *Radio Canada* about what degrowth is, economist François Delorme explains that] degrowth is "the diminution of GDP's rate of growth […] a degrowth of growth […] a lower rate of growth […] like 1% instead of 3%" (Delorme, 2020, mt).

After reading Chapter 6, it should be clear how the economy of a degrowth society differs from a proportionally shrunken one with miniature corporations, commodities, and consumers – the "small-scale capitalists of the degrowthist fantasy" that Phillips (2015: 386) mistakenly writes about. (Phillips (2019b) spend a great deal of effort to show that there could be such a thing as qualitatively better growth but then quickly dismiss degrowth merely as a quantitative plea for a slightly lower stockpile of stuff [fridges in his example].)[1] When I read Jakob and Edenhofer (2014: 448) saying that "proponents of 'degrowth' highlight the importance of slowing down economic growth as a prerequisite to safeguarding environmental integrity," I want to add that the goal is not only to *slow down* economic growth but to change the growth system altogether.

Here is the simplest way to sum all of this up: degrowth is not itself selective but involves a selective increase and decrease of certain things, or as Kallis and March (2015: 362) put it, "growth with a lowercase g, in an overall process of degrowth with an uppercase D." If not *Downsizing* (2017), there is another film that better captures the subtle idea of degrowth. Mandelbaum (2018, mt) calls the super-hero Ant-Man from the eponymous 2015 film[2] a "champion of degrowth." "Less violence. Less superpowers. Less monstruous destruction. Less cosmic grandiloquence. Less hyperbolic vilains. But more realism, more attention to actors, more comedy, more home-made effects 1980s sci-fi style, more concerns for family." Not just less but different.

Technophobic, anti-science, and the end of innovation

Degrowth is often accused of being technophobic and anti-science, and sometimes even against innovation itself. Technology-wise, it is depicted as a desire for a return back "to the caves" (Laville, 2014, mt), "oil lamps" (Barbier, 2007, mt), "horse and cart" (Cato, 2010), "arrows and treehouses" (Auxiette, 2012, mt), "filthy wooden huts" (Irri, 2010, mt), or to the villainous "candle lights" (Anon., 2009). When it comes to the production of knowledge in general, degrowth is considered either "anti-science" (Di Méo, 2006, 97, mt), an "anti-science obscurantism" (Kindo, 2016), or incompatible with the modern institutions of science and rationality (Kish and Quilley, 2017). Degrowth, we are told, either promotes or will result in the stagnation of invention and innovation – an "apology of immobilism" (Vendrillon, 2009, mt) or "a certain route to a closed-minded world and stagnant society" (Browne, 2019).

[1] I let Foramitti et al. (2019) answer Phillips' (2019) concern about fridges: "But consider the global North: In Britain, people consume and throw away more food than half a century ago when just two per cent of households owned a fridge. Supermarkets have removed doors from fridges to boost sales of frozen food that often travels across the planet and replaces local agriculture. More energy that wealthy countries put into refrigeration is unnecessarily wasted. Even less energy would be needed if we consider communal use like the solidarity fridges in Spain and communal fridges in Berlin."

[2] The website IMDB summarises the film as such: "Armed with a super-suit with the astonishing ability to shrink in scale but increase in strength, cat burglar Scott Lang must embrace his inner hero and help his mentor, Dr. Hank Pym, plan and pull off a heist that will save the world."

Technophobic

The relation of degrowth to technology is subtle and easily misunderstood. Reading through the literature, one may get the feeling that degrowth rejects technology in general. For example, the n°58 of the French magazine *La décroissance* titles "the Internet trap" and calls Internet "an ecological nightmare." Heikkurinen (2018: 1663) draws from philosopher Martin Heidegger and calls for "an ethos of releasement," that is a shift away from technology." The 2018 degrowth conference in Mexico encouraged a "tecnofast" with "minimum use of mobile phones, computers and microphones."

A column titled "the gadget we won't buy" in the French magazine *La décroissance* is every month pointing to an object considered problematic from the perspective of degrowth. While these are, most of the time, the usual suspects of environmentalist critique (e.g. hoverboard, energy drinks, drones, leaf vacuums, dating apps, digital picture frame, treadmills, water dispenser, indoor tanning), others, often chosen to provoke, could raise eyebrows, even among degrowthers themselves (e.g. showers, electricity, walking sticks, computer, sunglasses, ties, or even trains, bikes, or fire).[1]

Conclusions for detractors: degrowth suffers from a pathological disdain towards technology, which makes it unwise, inadequate, and potentially perilous.

> "We just wonder whether those who see it as necessary to reject progress also considering rejecting medicine, ultrasound and scanners, vaccines and triple therapy, as well as the thousands of other inventions that have liberated people in rich countries of a number of problems" (Vendrillon, 2009, mt);
>
> "Should we denounce technology and its progress to go back, do away with the steam engine and its coal mines to share our misery with others in need? Should we relearn how to live in filthy wooden huts, using horses for transportation and candles for light?" (Irri, 2010, mt);
>
> "Political ecological depressive scepticism of *techne* always carries with it the gnawing spectre of anthrophobia, an anxious sense that the eruptive human engines of urbanization and intensification are always underlain by a cancerous malevolent economic engine" (Robbins and Moore, 2015);
>
> "do we wish to infer from the just struggles against ecologically ruinous high-speed rail lines in Italy that we wish to reject industrial manufacture of trains, let alone bicycles, and the rending of the connective tissue of modernity such decoupling would imply?" (Ajl, 2018);
>
> "I guess that we will still want to have mobile phones tomorrow, which means we will still need the commodities to make them. I have difficulties in believing we can entirely stop building airplanes" (Mestrum, 2018);
>
> "Far from acknowledging the importance of technology to solve environmental problems, certain proponents of degrowth denounce it for accelerating the pace of destruction" (Sansfaçon, 2018);
>
> "in a just, democratic and sustainable ecosocialist future, will robots milk cows or will all production be on tiny family operations where humans toil at cows utters in the freezing cold at three in the morning" (Robbins, 2019);

[1] Here is a longer list: electric kettles, home robots, selfie-sticks, anti-wave clothing, foldable electric scooters, drones, hedonometers, artificial intelligence, cinema, home automation, virtual reality, video games, free software, automatic doors, electric bikes, motorised ice-cream cones, mini-motorcycles, helicopters, high-speed trains, ballpoint pens, leaf vacuums, museum audio guides, telemedicine, pistols, brow bars, tennis courts, fireworks, *fête des lumières* (Festival of Lights), emergency evacuation bags, survival kits, drive-in supermarkets, camping-cars, Go Pros, energy drinks, anoraks, trips to New York, GMO, free newspapers, cycling jerseys, background music, Nutella, spray paint, marijuana, *books-one-buys-in-a-train-station*, hair dye, perfume, bread machines, lottery, PACS, eternal life, private schools, divorce, basic income, tattoo, cruises, PVC windows, pavilions, suits, yatchs, stereos, air-conditioning, secondary residence, and yellow vests.

> "The degrowth fad has a tendency to forgot that progress and technologies improve our lives. Instead of fighting them, one should make them a leverage for sustainable development" (Fontanet, 2019, mt);
>
> [In a live debate with French degrowther Vincent Liegey] "So we want to go back to the 1970s. So if I came about confiscated every cell phone and shut down the Internet: How many here would feel richer and better off?" (Tucker, 2019: 12min41).

"If degrowth were to be implemented in industrialized nations," Molitch-Hou (2020) ponders, "what would become of all the technology we know and love?" The problem is that a technology is not either a benefit or a hazard but often both at once, that is a benefit for some and a hazard for others.[1] As I wrote in Chapter 6, *conviviality* has a strong justice aspect and the use of certain tools by some becomes morally problematic if it comes to harm others. Following the principle of care from Chapter 6, a technology should be questioned when it increases the overall rise in vulnerabilities, namely when it brings about more hazards than benefits.

This is not unique to degrowth. Laurent (2019, mt) advocates for "ecological luddism," "a conscious movement of deceleration of ICTs" motivated by their deleterious environmental and social consequences. Daly (2019: 16) speaks of a "social and ethical filter to select out the beneficial knowledge" instead of relying solely on a profit-driven market.

As we have seen in the conviviality element, any tool can be compatible with degrowth provided it fulfils certain criteria. Instead of treating innovation as an all-or-nothing process being either boon or bane, these criteria are always up for debate and citizens must have a *droit d'inventaire* (right to audit) in order to decide whether specific scientific and technological innovations should be pursued, paused, or abandoned. (This is already the case to some extent, remember that fracking was legally banned in several countries including France, even though this was the result of self-organised citizen mobilisation.)

An example of such institution is the *Comité Consultatif National d'Éthique* (national consultative ethics committee) in France since 1983, an independent organisation that gives opinion on ethical issues regarding biology, medicine, and health.[2] Of course, this committee as it is today can hardly be considered democratic (it only includes experts), additionally to lacking any decision-making power (it only offers suggestions).

In saying this, I reject Jacques Ellul's point about the autonomy of *technique*. Instead, I argue that the making of technology is a consequence, and not the original cause, of certain institutions (even though impacts go both ways). Innovation is not inevitable but embedded into social practices; one of them, which degrowth criticises, is the quest for monetary gains.

So degrowth does not reject technology but suggests that it should be democratically managed and controlled.[3] Environmentally-minded critics of growth would argue that the time

[1] Latouche (2011a: 68) writes jokingly that "if one were to return 'to candle light,' the great majority of humanity would continue to live as they do today with a significantly reduced pressure on resources and cultures."

[2] The *Comité Consultatif National d'Ethique* is independent to the government but can only offer recommendations. It is composed of a multi-disciplinary group of 39 religious, scientific, and intellectual personalities who are appointed to the committee for four years. Examples of issues discussed ranges from biodiversity (March 2017), refugees (September 2017), medically assisted reproduction (November 2017), and the use of 'Big Data' in health (November 2017).

[3] A point already made by Gorz (1982: 40 cited in Leonardi, 2019: 64): "self-management presupposes tools capable of being self-managed. The creation of these tools is technically feasible. It is not a question of reverting to cottage industry, to the village economy, or the Middle Ages, but of subordinating industrial technologies to the continuing extension of individual and collective autonomy."

invested in researching processes of hydraulic fracturing could have better been spent otherwise, and everybody would agree that all countries should stop developing biological weapons. If certain technological and scientific discoveries are deemed undesirable (e.g. spamming algorithms, torture techniques, geo-engineering, industrial fishing), then there should be democratically controlled ethical barriers preventing their pursuit. It is not because something is technically possible than it should be culturally desirable. The pertinent question is not whether degrowth is technophobic or not, but rather: "What technology, and for whom?" (Kostakis et al., 2016: 9).

But if a new technology improves quality of life without hindering social-ecological justice, then it can have a role to play in a degrowth world. For example, the Husk Power System of Gyanesh Pandey that generates electricity out of rice husks using a biomass gasifier, or the Human Power Plant project that designed a 22-floor tower building housing 750 students and entirely powered by human energy. In their study of local manufacturing from a degrowth perspective, Kostakis et al. (2016) pick robot hands, prosthetic devices, small wind turbines, and pico-hydroelectric plants as case studies. Dale (2019) brings evidence to that point by writing that "many degrowthers fight for wind farms, with their mega-tonnes of reinforced concrete and steel towers, magnetic direct drive turbines, and nano-engineered polymers and composites." (Again, because what is considered convivial is a political process, there is nothing guaranteeing that these, admittedly hand-picked, technologies would be deemed convivial in a given community.)

Degrowth is strongly opposed to the claim, often referred to as "techno-solutionism" by its detractors, that technological progress can solve any problem.[1] Let it be artificial intelligence to solve the deficiencies of human decision-making, geo-engineering to mitigate environmental issues, blockchain to ensure financial stability and democracy, matching algorithms to reduce frictional unemployment, 3D printing to end worker exploitation, degrowthers express a general suspicion towards technical innovation as a solution to problems that are deeply political. (I should say that techno-solutionism is also present in environmental discourses, for example in the "solar communism" of Schwartzman, 1996; the "eco-modernism" of Asafu-Adjaye et al., 2015; or the "fully automated luxury communism" of Bastani, 2019.)[2] In the same manner that a political solution can hardly solve a technical problem (giving a broken computer to someone who needs it more than you does not fix it), the inverse is also true (finding better ways to fix computers does not insure these will end up being used by those who need it the most). If social-ecological issues are closer to a family dispute than to a Rubik's cube, then there is no such thing as a wikiHow solution to injustice.

Robbins (2019) writes that "the hostile response to scaled, intensive, and technical innovation presented in degrowth literature is unwarranted." The author hints at nuclear energy arguing that the fact that "nuclear plants are not worker-owned is an institutional, rather than technological, failing." His claim rests on a conception of technology that is detached (or

[1] Here is an example. In a debate with French degrowther Vincent Liegey, Jeffrey Tucker affirmed that "the problem of CO_2 emissions is a technological problem. […] give it time, the market will solve it" (Tucker, 2019: 24min28).

[2] For example, take Huber's (2019a) embrace of Schwartzman (1996): "Solar energy fits nicely with the socialist vision of abundance. Schwartzman explains: 'one hour of solar flux to the earth supplies the same amount of energy as that consumed globally by society in one year.' The problem with solar power is of course technical. But under socialism, if production were oriented toward human and ecological need, vast amounts of engineering knowledge would be devoted to solving the limits of renewable energy (its intermittency and need for storage)."

detachable) from institutions. In the way I have defined technology using Hornborg (2016), and in line with Illich's institutional critique of tools, technological artefacts come *from* and *with* specific institutional arrangements. Even if it was waste-less, carbon-neutral, and perfectly safe, a nuclear fusion reactor would still fail to be convivial if only a handful of experts understand – and therefore – control it, if it was used exclusively by one community at the expense of another, or if it was generating a quantity of energy so great that it would force people to alter their lifestyles as to find a use for it.

In general, degrowthers side with the precautionary principle and try in priority to downscale a problem before trying to find a technological solution for it. If the problem is climate change, better start reducing emissions via voluntary simplicity before trying to invent new carbon removal technologies. Abrahams (2019b: 100) gives a fitting analogy: better inheriting a clean kitchen with only a broom than a messy one with a vacuum.

Connecting technology to justice matters. It is not enough that a community desires to use a tool to make it convivial, not if its use will be done at the expense of someone else. Just because of climate breakdown and the rarefaction of certain minerals, this currently phases out a considerable portion of modern technologies (hence the "back to the cave" charge). Some degrowthers may take issue with planes for other than environmental reason, but the sole fact that the 7.4 billion inhabitants of this planet cannot both fly and enjoy a liveable climate makes the act of flying problematic from a right-based definition of justice. But again, these are political criteria: degrowth is not against technology per se, it only defends the collective right of people to be against certain types of technologies.[1]

To finish, let us take one example of a specific techno-scientific horizon that is definitely not compatible with degrowth: transhumanism. In an article titled "Transhumanism and Degrowth – a false opposition," Maurer (2015) argues that the two "are not in conflict, and could even be necessary to each other." The author offers five reasons to back up this claim: drop in fertility and reduction of consumption linked to increase in life expectancy, moral enhancement, more energy-efficient bodies, body modification as to be able to survive in space.[2] It does not take much effort to show that Maurer is wrong. In fact, rants against transhumanism are monthly occurrences in the French periodical *La décroissance* and Rey (2018b), a philosopher disciple of Illich, even dedicated a full book to how incompatible transhumanism is with degrowth. Maurer, like many others, half-reads degrowth as a decrease in consumption for sustainability, which is only one dimension out of three.

Anti-science

Degrowthers talk negatively about "technoscience," they question and criticise certain fields of scientific research (e.g. artificial intelligence and genetically modified organisms), and they, as we just discussed, disapprove of a variety of modern technological artefacts. Because of these opinions, some detractors have concluded that degrowth was *anti-science* (see references below). That argument calls for immediate refutation.

[1] Let us reassure Métellus (2003), it is unlikely that a community would decide to substitute their modern ambulance for a horse and cart.

[2] On space colonisation, Daly (2014) cuts the discussion short: How are we expecting to survive in the more hostile out-of-Earth environment when we do not even manage to survive on our own planet?

"[degrowthers] attack science and technology. On the pretext that industrialisation threatens the ecological balance of the Earth, they advocate for a return to the past" (Oxley, 2004, mt);

"the steady-state economy must-be-definition refuse most technological advance, and even most new knowledge as well. The steady-state economy is a steady-technology economy, a steady-science economy. It is a static society, the very definition of conservatism" (Phillips, 2015: 74);

"The logical conclusion of degrowth is ineluctable: we must remain technologically, scientifically, medically frozen. All new innovation linked to the material world must be relinquished" (Phillips, 2015: 381);

"The degrowthers reject experience, knowledge, and science" (Levin, 2015: 9min01);

"It is to be expected that degrowthers are hostile to science of education because they are hostile to science in general" (Kindo, 2015, mt);

[Prime minister Édouard Phillipe in a speech at the National Assembly] "I am not a partisan of degrowth. I believe in science and I want it to be more present in our public debate. […] I love the industry and I am not ashamed of it" (Philippe, 2019a, mt);

"Degrowth asserts we have enough, indeed already too much. Yet to perform more scientific research or engineer further technological development presumes a lack, an insufficiency, a desire to know more and to do more. So if we already have enough, then there can be no more development, no further scientific discovery, no additional technological invention. It is the Amish-ification of the world" (Philipps, 2019b).

The problem with science and technology (*technoscience* for short), degrowthers would say, is that Western societies elevated them to the level where they should be pursued for their own sake. The question is not whether or not to do research and development, but rather to ask research and development for what, how, by whom, for whom, and why. Latouche (2011a, mt) resurrects the motto of the Sierra Club (an American environmental organisation) and writes that "[degrowth is] not a blind opposition to progress, but an opposition to blind progress."

Science should not become moneymaking. In application to its general rejection of economic rationality, it follows that the practice of science should remain as detached as possible from financial considerations (e.g. the appropriation and selling of scientific articles by for-profit publishers, the indexing of remuneration on performance, the funding of research by private, for-profit banks). Science should rest on curiosity, socially defined needs, and the pursuit of the common good.

Just like for technology, degrowth demands a democratic right to veto certain research programme before they even produce knowledge (e.g. on artificial intelligence, biological weapons, or race-based intellectual performance). "we have to limit our actions and choose not to do everything that seems doable. At times we must choose not to discover what can be discovered, not to develop what can be developed" (Kallis, 2019c: 73). Ultimatelly, deciding which research questions are considered socially useful should be a democratic process.

Let us now talk about methods. The principle of conviviality does impose additional constraints onto scientists. One could criticise certain so-called "black-box" economic models whose functioning is only clear to their makers and whose results should thus be followed believingly by policy makers (although one could argue that this criterion of *transparency* is a general feature of good science in general). Following Ivan Illich (especially in *Deschooling Society*, 1971), one could criticise the professionalization of science where academic knowledge dominates over vernacular knowledge, for example the ones of indigenous communities.

As I understand it (I am sure other degrowth scholars would disagree), degrowth is not only a study object but also a style of scholarship. Historically at least, the study of degrowth has been associated to a type of social science that is *interdisciplinary* (transcending traditional disciplinary boundaries), sometime *transdisciplinary* (welcoming non-scientists in the process of knowledge creation, verification, and dissemination), *post-normal* (recognising the role of values and political stakes), *pluralist* (acknowledge the plurality of forms of knowledge), often *action-research* (solving problems that matter for activists and political stakeholders),[1] or characterised as "slow science" (Stengers, 2018), that is grounded in reality, humble, and careful.

There is another misconception that I would like to address here: degrowth being against economics. Jackson (2017: 360) finds degrowth "interesting but not entirely satisfactory." He agrees with the goal of enacting alternative visions to growth (the missile word aspect of degrowth) but disputes the intention to escape the economy and its way of thinking on the grounds that "the idea that we can do without economics altogether must surely be wrong" (see footnote for the full quotation).[2]

The flaw in his argument lies in confusing *economics*, *economy*, and *economism*.[3] I am personally well-placed as an economist studying degrowth to assert that degrowth does not oppose *economics* defined as the field of research that aims to better understand the economy.[4] What it does oppose is (a) the disproportionate size of the economy compared to other social and ecological spheres (the *economy* problem), and (b) the primacy of the economic way of thinking over other logic in everyday life, not least in the conduct of public policies (the *economism* problem). I have no doubt that Jackson would openly agree with these two statements.

Economists researching degrowth usually add to this diagnostic a lack of pluralism within the discipline of economics and a certain imperialism of economics over sister disciplines of the social sciences (the *economics* problem) – I also believe Jackson would concur with this one too. This *economics* problem finds its solution in more theoretical, methodological, and disciplinary diversity in the way the economy is studied but not in less

[1] "Degrowth is an example of an activist-led science, where an activist slogan is slowly consolidating into a concept that can be analysed and discussed in the academic arena" (Demaria et al., 2013: 210); "degrowth is an action, or activist, research programme" (Kallis et al., 2018: 4.19).

[2] Here is Jackson (2018) elaborating on this point during the Jackson and Kallis interview: "The one thing that I was looking for in that degrowth conference [talking to the 2008 Paris conference] and didn't find, and some extent still divides the approach that I have and the approach the degrowh movement has, is that hard, […] possibly even sometime conventional, but structured way of looking at the economy itself and asking the question that we need to know about how that economy functions. And I know this isn't shared among all the degrowth membership, if it's a membership, but […] this critics of economics that says, what we have to do with economics basically is to throw it out, because it has corrupted the imaginary […]. I have so much sympathy with that view and yet I cannot get away from the fact that in order to make any progress, we have to know, understand, change, and reform economic institutions. That's a profoundly economic task. […] yes […] throw away growth-based economics, but don't necessarily throw away economics." And again in a later text co-authored with Peter Victor (Victor and Jackson, 2019: 271): "But rejecting formal economic models entirely is just as likely to lead to unproductive dialogue. This has been the case amongst some proponents of 'degrowth' who have argued not only that the pursuit of economic growth should be abandoned in favor of goals like social justice and ecological sustainability, but also that economics itself (and economic model in particular) should be regarded with suspicion."

[3] This misconception is not new. As early as 2006, Di Méo (p. 61, mt) was already writing: "They [degrowthers] confuse economy and capitalism. And their anticapitalism comes with an 'anti-economism' or, even more pejoratively, 'anti-economicism.' Which is an absurdity. Every society has an economic system, a mode of production, that can take a capitalist form or not. The problem is not whether one is for or against growth, for or against economic activity, but rather, which non-capitalist economic system is desirable."

[4] Similar assertion for Kallis (2018: 9): "All disciplines and approaches from all parts of the world are necessary for this task [to understand critically and undo the phenomenon of growth], including economics, but not as the privileged discourse."

economics overall.[1] Put another way, the de-economisation of practices and modes of thinking advocated by degrowth requires to step back the division of labour within the social sciences, a dynamic that is already under way as evidenced by the magnitude of the pluralism in economics movement.

Jackson's claim that degrowth would be against the building of "a new economics, fit for purpose in addressing the enormous challenges we are already facing" (ibid. 363) is thus unwarranted.

The end of innovation

In a 2019 private event, Jeff Bezos, CEO of Amazon and richest person on Earth, laid out his vision of a future where humans have colonised space. He left this audience with this question: "Do we want stasis and rationing or do we want dynamism and growth?" (cited in Haskins, 2019). In a video made by the pro-business *Medef* (The Movement of the Enterprises of France), Tissot-Colle (2020) "does not like" degrowth because she believes in "stimulating creativity and innovation." These two statements are representative of a widespread assumption that degrowth means the end of innovation.[2]

Diffusing this misconception is difficult for that detractors often neglect to define what they understand by *innovation*. For example, here are two quotations, one from an organised debate between Tim Jackson and Michael Liebreich (Jackson is growth-skeptical), and the other from a debate between John Browne and Jason Hickel (Hickel is a degrowther):

> "you also need an economic system which can form capital and direct it to large scale innovation and large scale application" (Liebreich, 2019);
>
> "Growth is the process of learning how to do more with less. The is exactly what engineering has been doing for all time – from hewing the first stone hand axes to designing the latest AI computer chips. It means we gain more control over our worlds, while expending less time, effort, financial capital or natural resources. This is why putting limits on economic growth means putting limits on progress" (Browne, 2019).

Liebreich never goes to explain what he means by "large scale innovation." As for Browne, he goes on to call degrowth "a certain route to a closed-minded world and stagnant society" – even though it remains unclear what an *open-minded* world and *dynamic* society would be.

In general, detractors conflate *innovation* (applying imagination and creativity to the solving of problems) and *progress* (development towards an improved condition). Progress is

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[1] The point here is subtle but crucial for the future of economics. One could argue that theoretically-narrow, quantitative, monodisciplinary closed economics does a decent job in explaining the workings of an economy where subjects have internalised certain of its ontological assumptions (e.g. *homo economicus*). So yes, maybe neoclassical theories do provide adequate explanations of how people behave in an actual casino. The question is whether such a field of economics would prove to be of any use for the study of economic life in a degrowth society where these assumptions would have been de-institutionalised. My view is that the discipline of economics is bound to irrelevance (a) if it keeps ignoring other disciplines; (b) if it sticks to an outmoded set of quantitative methods; and (c) if it refuses to engage with contending perspectives from feminist, ecological, post-Keynesian, institutional, Austrian, and Marxian schools of thought. I think Jackson would wholeheartedly agree with those three points.

[2] An associated charge is that if economic growth finances innovation (e.g. via public and private investment), then a smaller GDP means less innovation. For example, Belzile (2018, mt) writes: "economic growth allows us to spend more resources to do research in order to innovate, and it is this innovation that can enable us to do more with less." This is valid concern and the finance question is bigger than research for that it concerns all the functions of the State (I will address it in full in Chapter 7: *The Keynesian critique*).

normative and depends on objectives set in advance (progress in the building of a house supposes that the desirable horizon is to have the house finished). Innovation, on the other hand, can only be evaluated after it has occurred (inventing a new type of hammer or finding a more efficient division of labour is desirable only if to fastens the finishing of the house, but not if it slows it down). In a nutshell: what is new (innovation) is not necessarily better (progress).

This obscurity concerning innovation is commonplace. Lesh (2019) assumes all innovation contributes in reducing environmental pressures,[1] a widespread belief I have disproved in Chapter 2. Pointing to how home appliances liberated women's time, Conway (2019) supposes that all innovation carries the possibility of emancipatory cultural revolutions. Phillips (2019b) is even more vague: "an end of growth declares an end to technological development, an end to science, an end to progress, an end to the open-ended search for freedom – an end to history." Listening to Phillips, if degrowth is suspicious of the ability of advances in hydrogen-powered planes, self-driving cars, and nuclear fusion to save the day, it is then against *science*, *progress*, and *freedom*. Let us see what is wrong with this argument.

Let me start by diffusing a misconception about economic growth. As I have showed in Chapter 1 while reviewing theories of growth, innovation explains a large part of what economic growth is, and so the claim that "economic growth leads to more innovation" is tautological. It would be like saying that raining leads to more water falling from the sky. Mostly, economic growth *is* innovation, albeit, and that is the crucial point, only one type of innovation, namely productivity-enhancing, commercial innovation. Economists speak of technological progress as an increase in Total Factor Productivity, that is any change that enables to produce more with the same level of inputs or produce the same with lower levels of inputs. Muradian (2019: 260) is logically incoherent when arguing that because "economic growth is essentially a consequence of innovation" and that degrowth aims at "downscaling consumption and production," then that degrowth would result in "stopping innovation altogether."

Another mistaken assumption in these debates is that only private firms innovate. But as Mazzucato (2013) – an economist not noted for degrowth sympathies – worked out in great detail, public authorities play a – if not *the* – crucial role in technological progress. She gives the iPhone as an example: "both the Internet and SIRI were funded by the US Department of Defense; GPS by the US Navy; and touchscreen display by the CIA" (Mazzucato, 2018: 194). Talking about pharmaceuticals, Hickels (2017d: 203) reports that 84% of research is funded by public sources, with most contributing scientists being neither income-driven employees nor profit-driven entrepreneurs, but (prestige- or curiosity-driven) academics.

And what about so-called *social innovation*, that is the invention of new social practices in the like of local currencies, object-sharing networks, consumer cooperatives, and walking buses? Degrowth precisely argues we should be more inventive when it comes to these practices, which makes it, to use a language in vogue, "pro-innovation," albeit it in a selective manner. Robbins (2019) criticises degrowth for its hostility towards technology or even more, *sophistication*: "an insistence on a socio-ecological future that eschews sophistication is effectively primitivist." The author leaves the term undefined but, again, it seems that his

[1] "Economic growth is driven by using natural resources more efficiently. Innovation and entrepreneurship have allowed us to farm and manufacture more ith less use of natural resources. […] If anything, we need growth more than ever to enable us to innovate our way out of environmental degradation" (Lesh, 2019).

analysis is biased towards finding sophistication only in manufactured artefact. Social arrangements can be more or less sophisticated (think of Wikipedia versus a local book club or a Little Free Library; or Bolivia's Law of Mother Earth versus flight shaming in Sweden).

If degrowth means de-economisation, it means that the success of innovation should be evaluated on other criteria than its ability to make money. What degrowth rejects, is not innovation, but the responsibility that is left to the market in setting the direction and pace of innovation. Ultimately, solving problems, which is what innovation is about, always requires time and effort. Whereas today most of it is focused on economy-related problems, degrowth simply wants to re-focus that attention to outside-of-economy problems. Degrowth only suggests a different social protocol having to do with solving problems.

So yes, today goods and services with high commodity potential attract most of investments for research and development. But it would be a mistake to think that decommodification would lead to an absolute reduction in innovation (again, defined broadly as time and effort spent on solving problems). In the adage, it is not productivity but necessity that is the mother of all innovation. The source of innovation, that is the creativity of inventors their willingness to solve problems is not going to disappear. Instead, it will only mean a redistribution of innovative energies, from commercial commodities to other goods, services, and amenities with lower commodity potential (including social innovation).

Degrowth defends a "responsible stagnation" (de Saille and Medvecky, 2016), which does not mean "a cessation of invention, novelty and creative problem-solving," but a conscious choice in which lines of discovery should be pursued, paused, or abandoned. This is why, the author argues, it is mistaken to oppose "responsible innovation" and "responsible stagnation." One involves the other. For example, writing about degrowth and healthcare, Borowy and Aillon (2017) are clear that "the goal, obviously, cannot be that medical research and therapeutic advances end. Rather, the aim must be to organize and direct them in more cost-effective and socially just ways."

By now, critics may complain that I am picking my examples too carefully, so let us talk about a thornier topic: geo-engineering. Does degrowth bound society to a stance of passive adaptation where communities are left to suffer the vagaries of nature?[1] For Phillips (2015: 325), the answer is yes.[2] But again, if we come back to the problem geo-engineering tries to solve, it becomes clear that not all solutions require large, expensive, and technocratic tools. One could even say that, because they are uncertain and risky, the cure might be worse than the disease (Muraca and Neuber, 2017). If climate change is the problem, innovation can happen at different points on the spectrum of its causes. Reducing production or consumption can be an *innovative* solution to environmental issues, just like inventing a new tool for ocean cleanup or nudges to get people on public transports.

Schmitz (2016) tells us that wildlife absorbs carbon dioxide, either directly via photosynthesis for plants or indirectly via the regulation of animals whose diet impacts the

[1] Kallis (2019a) gives a good account of how this criticism is usually framed: "On the one hand, greens warn of a scary future of planetary disaster, and on the other, offer a peaceful dreamland where people bike to their artisanal work and live in picturesque houses with well manicured food gardens and small windmills."

[2] "withdrawing from civilisation would not stop the disaster from arriving. It will require significant ingenuity to engineer a reverse of the processes we have inadvertently set in motion, likely even involving some way to produce a carbon-negative economy for a period. This will involve developing some technologies and processes that we do not really have yet. […] By turning it back on the possibility of such technologies, on the very idea of progress, green anti-modernism actually commits us to catastrophic climate change" (Phillips, 2015: 325).

quantity of plants, top predators for example. Roman and McCarthy (2010) show how whales deliver plankton from the surface of the ocean to its depths, thus improving the ability of the oceans to store carbon. Why is it considered *innovative* to invent a carbon pump or an aquatic drone that would perform the same task, while it is considered *passive* to try to protect these "nature-based solutions" (IUCN, 2019)[1] via social innovation? In that particular case, it makes little sense to drive these species extinct and then develop technologies to attempt doing what these creatures have been perfecting for millennia. Degrowth is *innovative* because it proposes to act one step ahead: not solving the problem, but addressing its upstream causes.

This is not equivalent to say, as Phillips (2015: 83) implies, that without growth "we will have to banish all innovation, imagination, [and] intelligence" or that degrowth "consists in bridling the highest capacities of the human spirit" (Fillon, 2017 cited in Liegey, 2017, mt). There is always a trade-off between the efficiency provided by specialisation and the conviviality of a society where one can "hunt in the morning, fish in the afternoon, rear cattle in the evening [and] criticise after dinner" (Marx, 1845: Private property and communism). The point is that this should be framed and taken as a collective, informed decision at a level allowing for direct democracy, and knowingly of the consequences, not least on the most vulnerable members of the community.[2]

As I have argued earlier, not all inventions are desirable, and so the end of some form of innovation is indeed welcome. Is a 10-microsecond faster trading algorithm or more effective indoor tanning machines as desirable as an AIDS vaccine or an effective way of organising referendums or participative democracy? From the perspective of degrowth, one should indeed cease to innovate on the two first problems. But when it comes to the two second, it is the opposite, with more innovation urgently needed. Gonon (2019, mt) speaks of a "degrowth progress," where "to degrow would not mean renouncing to innovation, it would rather mean to innovate but with another objective: to do more with less" (Gonon, 2019, mt).

Certain authors see in degrowth a form of existential pessimism. One of the two reasons Jorion (2008, mt) is not in favour of degrowth, he writes, is that he refuses to be a pessimist. For the author, "the logic of moving forward is rooted in human nature," to the point where it is not "realistic" to expect humanity to "slow down or stop." Along the same lines, Ainsworth (2010) argues that degrowth goes against human nature: "the only way forward lies in using our brains to work out how to live happily within the natural constraints of the planet. That means growing more carefully."[3] "Economic growth," writes Kämpfen (2014, mt), is "the result

[1] On their website, the International Union for Conservation of Nature (IUCN) define "nature-based solutions" as "actionns to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits."

[2] To the question "What role for scientific research and technological development in a degrowth society?", The FAQ section of the Italian *Associazione per la Decrescita* answers: "A degrowth society cannot do without science and technology, but it cannot delegate to researchers, technocrats, or centers of economic power the choice of research to be carried out and, above all, it cannot entrust its present and future to exclusively scientific evaluation" (Decrescita, 2019, mt).

[3] Here is a longer quotation from Ainsworth (2010): "The problem with the idea of degrowth is that it is against human nature. There is therefore a particular irony attached to the propagation of the degrowth agenda by people whose avowed mission is to protect the natural world. Degrowth is not a natural idea. I have been actively involved in politics for over twenty-five years. Believe me, the human race is not ready for degrowth and almost certainly never will be. Our concept of well-being is firmly linked to our inherited notion of economic progress. People like stuff and always will. The degrowth agenda could never be achieved in a democratic context… […]. The idea of degrowth may be an interesting intellectual conceit, but it has no place in the world where we all live. This is a world teeming with hungry and acquisitive people: it's just how we are. The only way forward lies in using our brains to work out how to live happily within the natural constraints of the planet. That means growing more carefully. So with reluctance, I conclude that degrowth is indeed a mirage."

of innovation efforts. Progress is ineluctable as long as people have the gift of intelligence and put it to the service of evolution." For Chabot (2019: 41, mt), "the discourse of degrowth does not motivate because humans are destined for progress." For Conway (2019), it "go against the very grain of what makes us human."[1] "Such is the essence of the degrowth idea: a *cultural pessimism* that involves a voluntary regression and an anthropological choice for deprivation" (Bruckner, 2012, italics added, mt).

The question about human nature is another controversy that can be left open here. The starting postulate of this whole dissertation (if not of social sciences in general) is that humans socially construct themselves. This means that the difference between what is considered "nature" and "unnatural" is itself cultural. This displaces the focus of attention from human *nature* (Are we inherently selfish or selfless?) to human *culture* (Which institutions make us behave in selfish or selfless ways?). Perhaps we are hard-wired to struggle for progress, but what constitutes *progress* is itself an outcome of sociality.[2] This being said, there is a difference between arguing that humans want to improve their conditions, and arguing that the only way to do so is with markets and commodities. The consumers of the North were not born but made "*homo crescens*": "the growth device precedes the sphere of values. It is not rooted in nature, but it is rather the outcome of a specific socio-institutional structure" (Romano, 2019: 7). Change the structure, change the progress; system change, not climate change.

Degrowthers are as optimists as techno-utopians, albeit about different forms of innovation and a different agenda altogether. It is simply a change of direction about what to feel optimist about, or as Dengler and Seebacher (2018) say, "growth pessimism, but degrowth optimism." "I dream of a degrowth that would be free to experiment new lifestyles. I believe in how contagious our ideas can be. And that is why I am fundamentally an optimist. […] I believe in the contagiousness of our actions, in the power of our creativity" (Ariès, 2010c: 3, mt). "Degrowth is also a bet on human ingenuity, which will be, without a doubt, able to find solutions when needed" (Latouche, 2019a: 95, mt). "Now more than ever, to progress may mean to stop, think, and act differently. Let use human intelligence, imagination, and wonder to help us find our limits" (Kallis, 2019c: 129). "We can innovate, we should innovate, we must innovate" (Jackson, 2020: 5min27).

Remove the word "degrowth," and these could well be sentences from an Elon Musk speech.[3] Degrowth does not mean "being less ambitious" (contra Ann Moses, 2019, mt) or "throwing the towel" (contra Tissot-Colle, 2020, mt), but encouraging forms of *convivial entrepreneurship*, where innovators dedicate time and effort to offer equitable and sustainable solutions to problems that matter. This is also how Hickel (2019c) answers Browne (2019): "You say we need imagination. I agree. But there is nothing imaginative about clinging to the

[1] Here is a longer quotation from Conway (2019): "That brings us to the final problem with degrowth, which is that it is actually surprisingly difficult to avoid committing GDP. Humans are by their very nature driven to better their circumstances and ultimately all GDP is a measure of how much we as a population are earning. Preventing people from becoming more productive would go against the very grain of what makes us human" (Conway, 2019)."

[2] Paulson (2017: 440-41) is asking the right question: "If Homo Sapiens is hard wired for growth, why did per capita ecological footprints increase so late in the game? And so unevenly across human populations?"

[3] It is contradictory to argue that degrowth is both anti-innovation and too radical an innovation. For example, Grosse (2010 cited in Arnsperger and Bourg, 2017: 76, mt) challenges the likelihood of degrowth and argue that society is more likely to invent an infinite, clean source of energy than to invent a degrowth economy: "I think that human science is closer to inventing such a source of energy than to inventing a stable degrowth economy."

old 'growthist' paradigm. We must create something better: an economy fit for the 21st century, that thrives without growth."

Retrograde and reactionary

Degrowth is often denigrated as a regressive nostalgia for a period one would wish to have the clock turned back to (*retrograde*) and a uniform resistance to change, especially when defined as progress (*reactionary*). Let us consider each argument in turn.

Remembering the past to invent the future

Is degrowth a return to the past? Besson-Girard (2007b: 15), one of the pioneers of the French *décroissance*, wants to find the way out – which he notes is also the way in – of a labyrinth. Latouche likes to speak of "beating a retreat" and writes that "it is always progressist to be late in going in the wrong direction" (Latouche, 2006: 94, mt). His book series on the "precursors of degrowth" attempts to find degrowth-oriented thoughts in the past. The campaign flyer of the French degrowth party for the 2019 European elections called for "backing out," as one would retrace their steps from a dead end. One issue of *La Décroissance* even proposes a *"manuel du bon retrogradeur*" (manual of the good retrograde, mt). It is these figures of speech that are often brandished as evidence of a desire to move backwards.

For having seen a couple of my fellow degrowth researchers dropping out of their doctoral programme to start farming in the country-side, I am well placed to understand the misinterpretation of degrowth as a reversion to yesteryear's lifestyles. This misconception has been present since the beginning. For example, Duval (2006 cited in Duverger, 2011: 142, mt), then editor of the French magazine *Alternatives Économiques*, writes: "in the degrowthist discourse, one often finds the assumption of a 'it was better before,' before, in the good old days of traditional agrarian societies." In her ethnological study of French growth objectors, Blanc-Noel (2010) notes that the degrowth discourse is riddled with positive references to pre-industrial, pre-capitalist, pre-modern societies. Anon. (2009) describes degrowth as an "anti-progress propaganda" with "a desire to go three centuries back." In writing directly to climate activist Greta Thunberg, Simard (2019, mt) condemns degrowth and asks dismissively "who wants to go back to the pre-industrial era?" And they are not alone:

> [degrowth] "corresponds to a backward-looking worldview: for most of those who defend this idea, degrowth is desirable because, in the end, 'it was better before.' Before growth, before the Industrial Revolution" (Duval, 2005, mt);
>
> "Degrowth as an idea is a form of nostalgia towards pre-capitalist feudal societies" (Di Méo, 2006: 112, mt); "Degrowthers, nostalgic of exotic or medieval societies prefer to talk about spirituality and religion in coming back to pre-capitalist models" (Di Méo, 2006: 127, mt);
>
> "Fundamentally reactionary because degrowth calls for turning back the clock of history, as to come back to modes of production that have long disappeared, thus turning their back to the possibility of changing the world using the progress generated by industrial society" (Vendrillon, 2009, mt);
>
> "The ideology of degrowth contributes to this depressive spirit […]. Which women today would want to live among a Native American tribe and be married by force? Which teenager would want to be scarified at the age of twelve?" (Ferry, 2010, mt);

"imagining with relish the coming Peak Oil collapse, a retreat from modernity and an embrace of the medieval" (Phillips, 2015: 24); "If progress and growth are the problem, then we must return to a time when there was no growth or progress" (Phillips, 2015: 76);

"They are actually calling for bringing 'material production back to the level of the 1960s and 1970s and 'returning to small scale farming' – this is Mao, isn't it?" (Levin, 2015: 6min29);

"No reasonable person comparing the way we live now to the toil, want, dirt, ignorance, violence, insecurity, ill health, mortality of pre-industrial times – when parents buried the great majority of their children long before they reached adulthood – can possibly thinking the old days were 'good old days' " (Elhefnawy, 2019a);

"[…] impose a plan to take away our prosperity and to turn back the clock to, for God's sake, the 1970s" (Tucker, 2019: 14min52);

"In public, degrowthers often emphasize that they do not advocate a return to the past. Their writing says something subtly different: not exactly that we should regress to the Neolithic or live like hunter-gatherers of the Yaka pygmies of northern Congo, but that we should be inspired by their examples" (Timms, 2020).

Let us now diffuse the misunderstanding: degrowth refuses to either idealise the past (the past as a paradise to return to), which would lead to stagnancy and melancholy, or demonise it (the past as a hell to escape), which would forcefully propel societies forward, whatever the direction of this forward. The "Are-you-for-growth-or-a-retrograde?" narrative is an over-simplification.

It is true that the comeback (or one could say, renaissance) of certain ancient practices is considered desirable, but one should divest of all nostalgia and remain aware that these are, however, performed for different reasons and in a different context (climate change, a 7-billion population, representative democracy etc.). Assuming the possibility for collective autonomy, degrowth posits a strong social constructivism where people can imbue old practices with new meanings. Just like Gandhi turned the spinning wheel from a symbol of exploitation to one of liberty, degrowthers seek liberation from the consumerist society by re-appropriating old practices.

This attitude can be described different ways. One could, like Koselleck (1979), speak of the contemporaneity of the noncontemporaneous; appeal to Löwy and Sayre' (2002) "revolutionary romanticism"; or even refer to the South American "*nayrapacha*" that denotes "a past capable of renewing the future" (Cusicanqui, 2012: 52 cited in Baschet, 2018: 219, mt). What all these terms have in common is that they aim for a travel not *to* but *through* the past. "The purpose of these studies is not to promote a return to primitive life or third world conditions. On the contrary, awareness of many possible modes of human existence widens horizons for building unprecedented futures" (Paulson, 2016).

Tradition or innovation? The past or the future? This duality is overly simplistic. A tradition in one community can be an innovation in another, and vice versa. A pager may be an "innovative" technology to communicate for people that never used mobile phones but will be considered "traditional" in the Silicon Valley. In fact, one can only exist as the shadow of the other: tradition as the remembering of past innovation and innovation as the invention of new soon-to-be tradition. The setting of the boundaries between what is to be considered "in" and "out" is a power struggle that should be acknowledged as such, and not as a natural unfolding of history with tradition irreversibly backward and innovation unavoidably forward. Both are socially constructed: practices sometimes thought to be remembered, sometimes thought to be

invented; sometimes remembered as inventions (*innovative tradition*), sometimes invented as memories (*traditional innovation*).

The mobilisation of certain elements of the past does not necessarily translate into a complete return to the past. (One should note that Latouche himself, e.g. 2006: 98, does not go that far into the past and only alludes to a return to the living standards of the 1960s.) Perfectly fitting to the philosophy of degrowth are these three Zapatista phrases: "look backward to move forward," "more forward backward," and even better, "having one foot in the past and the other one in the future" (cited in Baschet, 2018: 27-8, mt). A better analogy than "beating a retreat" from modernity would be the *pas de côté* (sideward step) made famous in revolutionary circles by the film *L'An 01* (1973): "this is not a step backward, but an invitation to step aside, out of the race in pursuit of excessiveness" (Abraham, 2011).

The point made for new technologies also applies to old ones. Keeping a *droit d'inventaire* (right to audit), communities should be able to decide which traditions to remember (e.g. hempcrete buildings, seasonal diets, and mulching) and which ones to forget (e.g. sacrifices, patriarchal division of labour, and lynching). It is possible to encourage artisanal production and guilds, which have developed in the Middle Ages, without ending up with feudalism, chamber pots, and the burning of witches.[1] This point is made clear in the Québec degrowth manifesto: "degrowth is not the desire of an impossible return to the past. It is a lucid choice of inventions. Degrowth means stop believing that whatever is new is better: a selection must be made in what technology has to offer" (Mongeau et al., 2007, mt). Kallis (2019a) makes the same point responding to critics: "Agro-ecological, lower-intensity models that would involve more human labour than is currently the case in countries such as the U.S., are advocated. But these arrangements are generally envisioned as a mix of old and new, peasant and industrial experiences, not a total overhaul of modern techniques or a return to a pre-capitalist mode of living."

Degrowth is not blindly anti-modern; instead, it contains both elements of preservation and elements of revolution.[2] Thus, degrowthers do not see it as a contradiction to embrace certain new technologies and practices such as ICT and Smart City technologies (March, 2016), crypto-currencies like SolarCoin, digital commons like Wikipedia while rejecting others (e.g. biogenetics, high-frequency trading algorithms, international investment treaties, Bitcoin, robot lawn mowers, credit default swaps on sovereign debt, satellite-guided fishing trawlers).[3] In the end, "innovation is not always about finding new ideas and evidence but also remembering old wisdom (Göpel, 2016: 80).[4]

[1] Needless to say, it is possible to bring back small-scale farming without bringing back Mao (contra Levin, 2015: 6min29), and localism without the Khmer Rouge (contra Milanovic, 2016: 192). In the same vein, it is not necessary "to re-establish feudalism to save the environment" (contra Duval, 2005, mt).

[2] "This is not about simply presupposing an indiscriminate return to a more simple phase of social organisation – a sort of return to the past – but about searching for a superior or finer ability to discriminate between what is more important and meaningful and what we can instead do without. In other words, it is about a process that mixes forms of conservation, abandonment and innovation" (Deriu, 2012: 557).

[3] The fictional nation of Wakanda, home of the Marvel Comics character Black Panther, is a good example of a utopian depiction of a society where both advanced technologies (e.g. magnetic levitation trains, indestructible woven capes, holographic self-driving cars) co-exist with ancient customs (e.g. monarchy, hand-to-hand combat during elections). One can here also recall Ernest Callenbach's *Ecotopia* (1975) where the use of traditional medicine, high-speed trains, and yearly combat rituals co-exist together.

[4] This point is made particularly clear in the 2007 Québecer *Manifesto for a Convivial Degrowth*: "Let us be clear: degrowth is not the desire for an impossible return to the past. It is a lucid choice of innovations. Degrowth means to stop believing that what is new is better: a selection has to be made in what technology has to offer" (mt).

What matters is the politisation of the concept of progress, which means the involvement of autonomous individual and groups in the setting of their own futures, not out of necessity, but out of freedom, like in Theodor Adorno's (1951: 156, italics added) phrase: "Perhaps the true society will grow tired of development and, *out of freedom*, leave possibilities unused, instead of storming under a confused compulsion to the conquest of strange stars."

Not all progress is desirable

Not only is degrowth misconceived as *retrograde* (a desire for a return to the past) but also as *reactionary* (being against progress), perfect exemplar being Vendrillon (2009, mt) calling degrowth "an apology of immobilism."

> "It seems the thought of advocates of degrowth is conservative and reactionary. The similarities between the degrowth discourse and the rhetoric of the German conservative revolutionary movement are striking. It seems that degrowth embodies a form of 'alternative conservatism' " (Di Méo, 2006: 68, mt); "degrowth is a reactionary dead-end for alternative thought" (ibid. 183, mt);
>
> "It is easy to advocate for degrowth when, coming home, we can switch on the light and charge one's mobile phone while preparing dinner on an electric stove. Do we really want to renounce progress?" (Ferry, 2011, mt);
>
> "This new paradigm of rejecting growth and embracing limits is also by definition a rejection of progress. It is to say: this much and no more" (Phillips, 2015: 71);
>
> [In a critical commentary about Jacques Ellul and degrowth] "anti-science and/or anti-technology obscurantism often goes together with an obscurantism, more or less apparent, on societal questions, in defence of a kind of immutable, divine, or natural order that the supposedly excessive progress would come to disturb" (Kindo, 2016).

One should start by differentiating two uses of the term "conservative," one having to do with society and the other with nature. Degrowth is *conservationist* in the sense that it advocates for a granting of intrinsic rights to nature, the application of the precautionary principle in stewardship, along with the preservation of wilderness. But this does not mean it is necessarily *conservative* in the political sense.

There is a fundamental difference between the ecological and the social. While the former was not designed by humans, and our understanding of it is rather limited, the social, on the other hand, was fully constructed and therefore can be reshaped at wish. The economy should not be sacralised as an immutable reality; as a fragile, complex clock that if broken may never be fixed. The economy is a social construction that is as mutable as its participants allow it to be.

And if one understands the term conservative to denote an attitude striving to preserve an existing social order, then it depends what kind of social order is being discussed. For instance, degrowth is challenging patriarchy, one social order, but defending gratuity against the commodification of public services, which is just another social convention. Answering the question "Should degrowth be conservative?", Jarrige (2010: 14, mt) writes in the French journal *La décroissance*: "we should be both conservative and revolutionary. […] conservative to resist thirst of the neo-liberal order for perpetual movement; and revolutionary to break off

with unacceptable inequalities and various forms of domination." The stance is pragmatic: maintaining the desirable and breaking down the undesirable.

Obviously, degrowth is not against all forms of progress since it calls for a striving towards more social-ecological justice. The scepticism is towards Progess with a capital "P," that is the belief in a linear vision of history, with the future always sitting at a *more* desirable end of the spectrum.

The difference that Latour (2010: 473) makes between *progress* and *progressive* is useful. "It is as if we had to move from an idea of inevitable progress to one of *tentative and precautionary progression*. There is still a movement. Something is still going forward." It is precisely in that sense that degrowth is not stagnation. To the contrary, it is an active research for new forms of betterment. Here is Latour again: "the ecological crisis is nothing but the sudden turning around of someone who had actually never before looked into the future, so busy was He [sic] extricating Himself [sic] from a horrible past" (ibid. 486). This why, now looking at the ecological crisis, stepping backward sounds like recess, but perhaps this is only a matter of vantage point.

Austerity and asceticism

Austerity

Austerity recently turned from a virtue to a vice. Whereas it was once understood as a commendable form of sobriety and frugality (living within one's means, less is more, *ne quid nimis* for "nothing in excess"),[1] the experience of the European debt crisis redefined the term as "difficult economic conditions created by government measures to reduce public expenditures" (Oxford dictionary, 2018). Because degrowth stands for sobriety and frugality, several commentators have misunderstood it for the latter type of austerity.

The mere use of the word "austerity" generated dissensus among the French degrowth movement. In 2012, Paul Ariès attacked the journal *La Décroissance* for its front page titled "The revenge of austerity" aside a drawing of Gandhi sticking his tongue out (n°92, June 2012, mt). Thiesset (2016: 175-79) replied by defending the notion of a "revolutionary austerity" that should be embraced by the left as a means of liberation (the term itself comes from Enrico Berlinguer, the leader of the Italian Communist Party from 1972 to 1984). Same reference for Kallis (2019d): "he [Berlinguer, 1977] advocated instead [of neo-liberal austerity] an austerity of solidarity, an austerity of living simply so that others can simply live. An austerity of private, not public consumption."

Misconceptions aside, there are degrowth authors who are trying to reconceptualise austerity. The book *Transitioning to a Post-Carbon Society: Degrowth, Austerity and Well-being* (2017) dedicates one of its part to "rethinking austerity," with the goal of giving it a new, degrowth-compatible meaning. Bramall (2017) attempts to bring back the term "eco-austerity," which she defines as what degrowthers would describe as voluntary simplicity.[2] Alexander (2017: 159) goes further and coins "an austerity of degrowth," which he describes as a "positive,

[1] Illich (1973: 13) calls *austere* the one "who finds joy the use of convivial tools."

[2] "In eco-austerity discourse, an austere life means buying something only if you really need it, preferring to bio second-hand goods, and 'making do' if what you need isn't available; it involves 'reskilling,' or learning how to sew, knit, mend, repair, conserve, preserve and bake; it means cycling or walking instead of driving; it involves spending more time being outdoors, and perhaps more time with family and friends" (Bramall, 2017: 117).

enriching form of austerity" to be contrasted with neoliberal, capitalist forms of austerity. "Degrowth is about moving toward a society of frugal abundance, a society that is not degraded by capitalist austerity in times of crisis, but enriched by an austerity of degrowth based on an ethics of voluntary simplicity" (ibid. 174). In a similar spirit, the *Austeria project* describes a "city of minimum consumption" in the spirit of a "Zen road to affluence" (for more, see Suryawinata and Maas, 2012).

My view is that it is unnecessarily dangerous to try to co-opt the concept of austerity from its prevailing neoliberal connotation – that is opposing a form of *ecological austerity* over the prevailing *neoliberal austerity*. As I will argue later in this chapter, the term "degrowth" is already a linguistic battle of its own. In that semantic corner we degrowthers find ourselves in, the "austerity of degrowth" proposed by Alexander (2017) is too ambitious for its own good. Bramall (2017) makes a case for "eco-austerity," which she argues appeals to positive Second World War values in British culture. While this may be true for Brits, I can hardly imagine the Greeks or Spaniards mobilising under the banner of austerity, whatever qualifier is put before it. Besides, why not simply using terms such as "sufficiency," "frugality," and "simplicity"? These terms have established themselves in the philosophy of degrowth and have not – so far – being injected with a problematic meaning by a contending ideology.[1]

I am now lifting the "misconception aside" to discuss detractors who do misunderstand ecological austerity as neoliberal austerity and castigate degrowth as a form of "eco-Thatcherism" (in the loving words of Phillips, 2019b).

> "[Degrowth] might provide political rhetoric for the engineers of cutbacks in social services. The pro-austerity "share the pain" invocations to belt-tightening sound a lot like degrowth" (Brownhill et al., 2012: 94);
>
> "As can be currently be observed in Europe, there is a non-negligible risk that the degrowth of economic activity translates into a limiting of socialisation mechanisms, leading to a recoil of collective solidarity" (Duval, 2013, mt);
>
> "Austerity and 'degrowth' are mathematically and socially identical. They are the same thing. What green degrowth partisans are actually calling for is eco-austerity" (Phillips, 2015: 63);
>
> "those in power have repeatedly adopted policies whose effect is to render growth unlikely or impossible, especially in Europe but to some extent also in the US and elsewhere. De-growthers stumble when asked what measures to take, but the most powerful instrument is right there in front of them: austerity" (Dorman, 2016);
>
> "In the current global conjuncture, when the dominant capitalist strategy in Europe is an austerity politics of capital devaluation, the 'degrowth' theory may well act as an ideology for the legitimation of the politics of devaluation and for the management of the global surplus population" (Antithesi, 2017);
>
> "In North America, it's beyond tone-deaf to call for immediate 'de-growth,' appealing to abstract moral virtues like Honor, Genius, and already existing Wealth. Most of us now live with threadbare public services, mounting debt, and extreme inequality. Who will marche for 'green austerity'?" (Aldana Cohen, 2017);

[1] In the conclusions of the book, the authors admit that other terms could be used: "Or, if we prefer, we could use terms such as sobriety, moderation and self-containment; what matters most is the actions that accompany it" (Garcia et al., 2017: 276). Same confession for Alexander (2017: 160): "in this very different sense of austerity, the term can be understood as a synonym for frugality or simplicity of living." (If that is the case, readers are left wondering why the authors put such a strong emphasis on the term "austerity" in their book – also in the title, "degrowth, austerity and well-being.")

> "more and more people living in precarious conditions both in the North and the South draw this equivalence between degrowth and austerity measures. For them, austerity is an unwelcomed degrowth strategy for the poor" (Rodríguez-Labajos et al., 2019: 178);
> "But a right-wing degrowth agenda would almost certainly result in less prosperity for most, and even great violence. It's just as easy to imagine deeply savage governments pursuing aggressive degrowth agendas that do aim to make the economy more materially sustainable, but doing so through brutal austerity measures" (Miller Mcdonald, 2019);
> "degrowth unwittingly endorses what would be an imposition of austerity on the Western working class far beyond anything a Thatcher, Cameron or May could imagine, this time in the name of the planet" (Phillips, 2019).

The confusion is fourfold having to do with (a) the *why* it should be reduced (degrowth is not a strategy to revive economic growth), (b) the *what* should be reduced (degrowth is not a reduction of GDP), (c) the *who* should reduce it (degrowth is not a shrinking of the State), and (d) the *how* it should be reduced (degrowth is not to be imposed). Let us discuss these each of these points by one.

Austerity politics consists in slashing the least productive public expenditures (in terms of economic value) as to reserve the available budget for more productive ones. This means that activities (e.g. healthcare, education, defence, transport, agriculture, energy) are weighted based on their contribution to national GDP and that the ultimate objective is to maximise economic growth and maintain balanced public budgets. "The whole point of austerity is to slash public goods *in order to re-start economic growth* […] Austerity is a violent expression of our system's need for endless growth" (Hickel, 2017, italics in original). It would be a different discussion if austerity was announced as a means to achieve social and ecological objectives (Kallis, 2017b: 201).[1] Austerity is subjugating public governance to an economic reality, the economisation of the political that degrowth criticises so vehemently.[2]

Second, if degrowth disagrees with the end of austerity, it also does so with its means. The reduction in public expenditures that occurs in a climate of austerity politics usually targets the activities that degrowthers argue should expand (e.g. education, healthcare, culture, natural preservation, thermic renovation of public buildings) and not the ones that should shrink (military and space exploration, fossil fuel subsidies, advertisement budgets). When Reichel (2015a) argues that austerity politics is more compatible with degrowth than its Keynesian stimulus counterpart, he misunderstands degrowth as a decrease of GDP.[3] Same confusion for Duval (2013) when he writes that degrowth limits investments in the ecological transition. If the State should increase expenditures as to ensure universal access to quality healthcare, this is not as a means to boost aggregate demand (growth-oriented policy) but rather to directly improve healthcare (health-oriented policy).

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[1] "The neoliberal discourse says decrease your [public] consumption so that you have more surplus and you can grow and produce more. If Merkel comes out and says: 'ok, we need to be austere because we don't want to create commodity frontiers in Africa, or emit too much carbon emissions,' then ok, let's discuss then if degrowth has been co-opted by conservatives" (Kallis, 2017b: 201).

[2] The *Appel pour la Décroissance* (Call for Degrowth, mt) of January 2018 is clear on that point: "The solution is not austerity and growth, but rather a break from productivism, extractivism, blind faith in techno-science, authoritarianism, and capitalism" (Ariès et al., 2018, mt).

[3] The only example he gives of an austerity measure is "cutting away resource-oriented subsidies and increase resource taxes (especially on fossil fuels)." Describing austerity as such is simply inaccurate; to the best of my knowledge, there is not a single country undergoing "austerity" that have implemented such measures.

Third, it is not because degrowth implies an attitude of self-limitation that can be qualified in the old understanding of "austere" (used as a synonym for *frugal*) that this attitude applies equally to everyone, and especially not to the State. First, it is those at the top of the consumption chain who should be concerned about frugality (naturally, people who do not fly do not have to self-limit their flights). When it comes to the government, the viability of voluntary simplicity attitudes rely on increased public expenditures to ensure a free access to certain amenities – e.g. water, electricity, housing, and transport. For example, public investment in train infrastructure and cultural activities to discourage flying and encourage local tourism. "[A] post-growth economy does not entail 'austerity,' or loss of state accountability for its population. […] This would not necessarily mean less government, but fewer adherences to capital-driven state models such as Keynesian welfare systems" (Cattaneo and Vansintjan, 2016: 25). Farquharson (2019) is right to worry that "without structural change in our society it would be those at the bottom of the pile that paid the price"; degrowth is the term used to describe such *structural change*.

The last difference, and this is my fourth point, between austerity and degrowth has to do with autonomy. Using Castoriadis (1975), we can now make a difference between *autonomous* degrowth and *heteronomous* austerity, or in other words, between a voluntary process of self-restraint and a forced contraction. Degrowth is autonomous because embraced voluntarily being considered more desirable than growthism. Austerity is heteronomous because it is a reaction to an outside reality, let it be ecological (resource scarcity, climate change) or social (secular stagnation). Austerity is the belief that society shall adapt as best as it can to a situation that is imposed. This is a subtle difference that is often ignored, for example by Huber (2019a) who mistakenly bundles degrowth (autonomous austerity) with the "eco-austerity" advocated by Vettese (2018). As Passadakis and Schmelzer (2010) write, and I doubt any degrowther would disagree, "your austerity is not our degrowth!"

Asceticism

Some commentators see in degrowth a revival of the religious idea that morality is to be found in extreme renunciation, a lack of indulgence, and a lifestyle of monk-life self-discipline. In his book *Le Fanatisme de l'Apocalypse : sauver la Terre punir l'Homme* (The Fanaticism of the Apocalypse: Save the Earth, Punish Mankind, 2011), Bruckner calls degrowth an "ascetic plague" (p. 219, mt). Roquelle and Doré (2009 cited in *La décroissance*, 2009: 16, mt) describe degrowthers as "these bobos who make themselves 'metropuritans': urbans greens who defend an almost military desire for asceticism and rigour." Bruckner (2012, mt) describes degrowth as advocating for "extreme starkness," Anon (2019b) portrays it as "humble" in the negative understanding of the term, and Liddle (2019) castigates it as "self-abnegation and "Lenten abstinence" (in Christianity, *lent* is a six-week penitential preparation before Easter). Coudray (2010: 121, mt) is a textbook example of this misconception: "it seems degrowthers call for a religious commitment, to be dispossessed of all goods, to renounce the enjoyment of objects and settle in the hell of rural life, in poverty, and in boredom."

> "Whether it is justified on the green-leaning basis that our lust for stuff is destroying the planet, or the right-leaning notion that our materialism is undermining family life and community

relations, it is broadly agreed that over-consumption must be tackled and austerity re-introduced, by force if necessary" (O'Neill, 2008a);

"Behind these recommendations hides a hidden ascetic tune that always comes back to our ears: one should love indigence; one should cherish it as our most precious thing. Because only indigence is 'convivial,' it teaches us to manage together our lack in a joyful manner. Real wealth consists in finding dignity in privation" (Bruckner, 2012, mt);

[In a sarcastic tone] "There is nothing less credible than the cult of deprivation: sometime I have tempted by the beauty of this way of life and I dream of a Spartan retreat on the sea side, in a poor island furnished by a monk. There, I will be happy, naked like the prince of nothingness" (Clerc, 2019, mt);

"But just what would this new 'degrowth' economic system actually look like? Well, if the plan put forth by the Urban Sustainability Directors Network is any indication, it's going to look a lot like the dystopian society depicted in the early Mad Max films, where people live in micro-houses, repair their own computers, and share tools, 'kitchen gadgets' and toys. […] Degrowth offers a more humble – and I would say more realistic – vision of a sustainable future. Humble, indeed" (Anon., 2019b);

"The degrowth promise of 'radical abundance' is ultimately no material abundance at all, but simply a secular repetition of the Christian encouragement of James 2:5 that however *poor in the world* we may be, we are nevertheless rich in spirit" (Phillips, 2019b, italics in original);

[Interviewing François Schneider about the Degrowth Summer School in Can Decreix] "Visitors to the home of degrowth, François tells me, usually give up all their addictions: coffee, cigarettes, drugs, the internet, sugar, salt" (Timms, 2020).

Misunderstanding degrowth as puritanical is not that surprising when stumbling upon titles such as Cox Hall's (2017) "Neo-monastics in North Carolina, de-growth and a theology of enough," when reading praises for Pope Francis's growth-critical encyclical *Laudato si'* (2015), or when noticing the many references to Gandhi and his simple life in *ashrams*. The religious association is easy to make when realising that many of the so-called "precursors of degrowth" (Latouche, 2016) were religious figures (e.g. J. Ellul, I. Illich, B. Charbonneau, H. Daly, and E.F. Schumacher). In France, a small community of Christian degrowthers propose religious readings of degrowth in the journal *Limites*, which explains the occurrence of events such as the recent open lecture "Scouting movement, a school for degrowth" (December 3rd, 2019) given by a Scout union leader in Paris.

And yet, degrowth is not asceticism understood as a belt tightening sacrifice, severe self-abnegation, or joyless resignation made in the name of scarcity. Instead, it is first and foremost a lowering of material expectations that can render a "society of frugal abundance" possible (Latouche, 2006). "[D]egrowth is the very opposite of austerity. While austerity calls for scarcity in order to generate growth, degrowth calls for abundance in order to render growth unnecessary" (Hickel, 2018b).[1] "[S]obriety is not penury, just as consumerism is not well-being" (Gesualdi, 2009: 8). "The degrowth vision is not one of restriction but rather of sufficiency – living with enough for having a good life, and not more (for the sake of more)"

[1] The author is even clearer in this passage: "If austerity represents the apogee of the Lauderdale Paradox, where public wealth is sacrificed for the sake of generating private riches, what becomes clear from the above is that degrowth is the very opposite. […] Some have attempted to smear degrowth as a new version of austerity […] an extreme manifestation of old-school environmentalists who want to force everyone to live miserable lives. But exactly the opposite is true. While austerity calls for scarcity in order to generate more growth, degrowth calls for abundance *in order to render growth unnecessary*" (Hickel, 2019b: 66, italics in original).

(Demaria et al., 2019: 435). So when the Zürich Federal Institute of Technology proposes the "Two Thousand Watt Society," it indeed requires a reduction in energy consumption, but it also invites cultural shifts to make life just and enjoyable within this boundary. This difference between a collectively chosen descent and an imposed austerity or sacrifice is the same as the difference between a self-chosen fasting and an endured hunger.

In terms of communication, Vettese (2018: 81) takes some risk in using the term "eco-austerity,"[1] but what he means is not as radical as it sounds: "One would live in a 'passive' house that required little or no energy for heating or cooling, would eat vegan and rarely fly or drive a car, depending instead on free public transport, walking and cycling." This does not exactly sound like Mad Max (contra Anon., 2019b). Paquot (2019, italics added, mt) titles his book on Ivan Illich: "for a voluntary and convivial *asceticism*," which should be understood as a simplification of the tools one uses and a reduction of commodified consumption, for the benefit of autonomy. Domazet (2018, italics added) speaks of degrowth as "a *sober* vision of limiting warming to 1.5°C," but that only entices limiting the burning of fossil fuels. Degrowth is not a personal quest for purity via downshifting, it is a political project where people together redefine what does it mean to live the Good Life within planetary boundaries.

Yes, degrowth has an individual dimension which says that if the key to happiness is low expectations, then it also applies to material wants (voluntary simplicity). "Those who know they have enough are rich," saith Lao-Tzu.[2] But it also has a social aspect; this is Gandhi inviting us to "live simply so that others may simply live." Nobody is poor in a community where everybody has the same, and so a collectively chosen frugality is not the same as an austerity whose burden falls heavier on certain members of society. (This is why degrowth is not a form of stinginess.[3])

Whereas the idea of austerity is now prisoner of an ideology that equals happiness with profusion, frugal abundance may be said to be the anti-thesis of austerity because it is the actual setting of limits that is key to well-being. Thus, degrowth is not the "immizeration of the West" that Milanovic (2017a) writes about, a point made clear in the French call launched by Ariès et al. (2018, mt): "the degrowth we advocate is not about doing the same thing but less, it is not a praise for sacrifice, it is first and foremost the construction of an ecology of incomes with a decent minimum and maximum at rates that nature can support."

In fact, one could see degrowth as the polar opposite of asceticism. The title of the oldest degrowth periodical – the French journal *La décroissance* – bears as subtitle "*le journal de la joie de vivre*" (the journal of the joy of life). Priding himself in being a "*amoureux du bien-vivre*" (a lover of the good life, mt), Ariès (2019) champions an attitude of degrowthers as *bons vivants*, the ones who enjoy life, take pleasure in tasty food, exuberant revelry, and extravagant love relationships. This is far from the vision of degrowth as a grim, "societally-mandated scarcity" (contra Teixeira, 2019). "We are not advocating for less but more enjoyment, the

[1] Several months after writing that sentence, I read Phillips (2019b) calling degrowth "eco-Thatcherism," writing that "some degrowth advocates such as Troy Vettese concede that yes, such 'eco-austerity' for even the working class of developed nations will be necessary."

[2] "Voluntary simplicity is not an 'ascetic simplicity' (or strict austerity); rather it is an 'aesthetic simplicity' where each person considers whether his or her level and pattern of consumption fits with grace and integrity into the practical art of daily living on this planet" (Elgin, 1981: 150).

[3] In the n°151 of the magazine *60 millions de consommateurs* (2010), the author writes: "Is degrowth just a new form of stinginess? In any case, the movement for degrowth appeared in reaction to hyperconsumption. Being stingy would then be one way of acting in favour of the environment" (cited in *La décroissance*, n°73, p.16, mt).

difference is that we want to enjoy *being* instead of enjoying *having*" (Ariès, 2018b, italics added, mt).

In his first use of the term, Latouche (2002: 11, mt) presented the purpose of degrowth as a "the flourishing of sentiments and the production of a festive, even Dionysian life." Almost two decades later, Latouche (2019a: 122) closes one of his recent book by appealing to a *re-enchantment* of the world: "The objector of growth is necessarily an artist. Someone for whom aesthetic pleasure is an important part of the joy of life. Degrowth must be an art of life, an art of the good life, in harmony with the world, an artful art of life."

Another example of degrowth *joie de vivre* is Pijuan (2019: 15, mt) who centres his vision of degrowth around the poet Chamfort's (1741-1794) maxim "Take pleasure, give pleasure, without harming either yourself or anybody." "Degrowth […] is about the opportunity to improve our lives without increasing our use of resources" (Foramitti et al., 2019). Harper (2019) perfectly captures this spirit talking of "cities of shared plenty – of nourishing culture and prioritising the production of art. It is a system which values the writing of love letters, amateur gardening and taking the scenic route rather than treating these economically non-productive activities as frivolities." This is the more-is-less defended by advocates of voluntary simplicity: "The objective is not dogmatically to live with less, but is a more demanding intention of living with balance in order to find a life of *greater purpose, fulfilment, and satisfaction*" (Elgin, 1981: 25, italics added)

It really is a different attitude. While the growth ideology sees a reduction of throughput as a landing (something one *has* to do), degrowth sees it as a climb (something one *wants* to do). Degrowth is not a "cult of deprivation" (contra Clerc, 2019, mt); it is perhaps closer to the Alcoholic Anonymous: a group of people interested in discovering how to live a fair and happy life outside of the consumerist hubris. If one follows Castoriadis's ideal for autonomy, sufficiency should be understood as something to look forward to and not a chore (which would then arguably not be degrowth).[1,2] The degrowth society I have envisioned in Chapter 6 is fundamentally about *joie de vivre*.

Authoritarian, sectarian, and survivalist

Because the objectives of degrowth are so radical and urgent (e.g. avoiding climate breakdown, breaking down patriarchy, sharing of wealth, eradication of poverty), one could think that only equally radical and urgent political means could achieve them. A few of these easily come to mind: a green form of totalitarianism where a despotic State would force resource caps and birth permits upon an unwilling population; the paternalistic setting of nudges to incentivise good behaviour; the organisation of secluded, sectarian communities based on place, family, tribe, religion, or ethnicity that would breed xenophobia; or an individual form of survivalism putting the lives of the weakest, and ultimately our own humanity, at risk. But this association is mistaken: degrowth is not ecofascism, sectarianism, or survivalism.

[1] Here lies a potential tension between sustainability and autonomy: How to render biophysical or social limits (e.g. planetary boundaries, demography) political without them becoming a source of expert-led heteronomy?

[2] In the words of Bookchin (2001/2002, italics in original): "our decision to create a better society, and our choice of the way to do it, must come *from within ourselves*, without the aid of a deity, still less a mystical 'force of nature' or a charismatic leader. If we choose the road toward a better future, our choice must be the consequence of our ability – and *ours* alone – to learn from the material lessons of the past and to appreciate the real prospects of the future."

Ecofascism

Dobson (2013: 242) refers to the work of American political scientist William Ophuls (e.g. 1977) to argue that "the changes in behaviour required for the creation of a sustainable society are so drastic that they would not be undertaken voluntarily." In the Doha Debate on capitalism, Anand Giridharadas (a former columnist for The New York Times and author of *Winners Take All: The Elite Charade of Changing the World*, 2018) attacked degrowther Jason Hickel's plea for limits by asking who would get to set "the Jason line," thus implying a top-down imposition of limit (see Hickel, 2019f: 28min30). More aggressively, Baverez (2018, mt) writes that degrowth "opens the door for dictatorships," Ferry (2011, mt) brands it a form of "green fascism," Durieux (2019: 39) directly speaks of the "degrowth dictature," and Swiss member of parliament Catherine Labouchère (2016, mt) decries degrowth as an "objective worthy of North Korea."

> "I am not saying that degrowthers defend a totalitarian project but only that the logic which they embrace could, if pushed to the extreme, leads to such an outcome" (Clerc, 2008: 101, mt);
>
> [Commenting on Cheynet's *Le choc de la décroissance*, 2008] "This is exactly what President Mao tried to achieve during the Chinese cultural revolution! Even though I agree fully in substance, I worry about the imperative character: Will all of those who refuse to emancipate be forced to do so because they are an obstacle to degrowth? If yes, this will be a dictature; if not, they will slow down or prevent degrowth!" (Scifo, 2008: 247, mt);
>
> "certain degrowth ideologists would prefer an enlighten dictature to address, they say, the magnitude of global issues" (Tertrais, 2012, mt);
>
> [In a section titled *Authoritarian degrowth*] "degrowth is an imperfect concept as it does not allow the exclusion of authoritarian social models nor of explicitly the institution and development of social structures and socially useful economic activities. The concept of degrowth says nothing about the political organisation that it presupposes. […] the concept of degrowth call also be called for by people carrying a racist, theocratic or fascist vision of society" (CGA, 2014);
>
> "While scepticism toward markets as the sole regulating principle is pronounced, in the mind of many, degrowth combines well with enforced State power, as for instance, expressed in rationing measures" (Exner, 2014: 10);
>
> [In a review of Latouche's *Petit traité de la décroissance sereine*, 2007] "The '*petit Traité de la décroissance*' is one of those generous ideas produced in the last few centuries with the objective to generate happiness by any means necessary. These intellectual productions are put in practice by totalitarian regimes of all kinds from enlightened despotism to Pol Pot. Serge Latouche's small '*Traité*' is a concentrate of these beautiful ideas pregnant with collective oppressions made in the best of intentions" (Ordonneau, 2014, mt);
>
> "Degrowth is denounced as ecofascism: ideologically-driven imposition that would force unwilling victims to sacrifice their God-given freedoms and betray innate self-interests" (Paulson, 2016);
>
> "On the agenda of the so-called "for a green economy" initiative: obligations, centralisation, control, taxation, taxes for a clear objective of degrowth. In a nutshell, objectives worthy of North Korea!" (Labouchère, 2016, mt);
>
> "Degrowth is vehemently denounced as ecofascism: ideologically-driven imposition that would force unwilling victims to sacrifice their God-given freedoms and to betray innate self-interests" (Paulson, 2017: 440);

> "I do not think that this progress is illogical [talking about Hickel's appeal for degrowth]. It is just so enormous, outside of anything that we normally can expect to implement, that it verges, I am afraid, on absurdity. It is simply impossible to put in practice, not only in democracies, but probably in North Korea either. I do not want to be impolite or insulting, but I think that only Kampuchea came up with anything similar" (Milanovic, 2017b);
>
> "degrowth as a political ideology sets up an appeal to political authority and lends itself to a mentality of hierarchy and domination. […] By perpetuating a cosmology of the nature-culture binary and an imaginary of limitless need degrowth makes an implicit appeal to political authority. After all, someone must determine the 'limits' of nature, just as someone must be empowered to enforce its checks" (Finley, 2018: 3 / 4);
>
> "plain to see that behind these actions, activists [talking about Extinction Rebellion] aim to impose de facto a principle of degrowth and deconsumption in the name of animals and the planet's interests, and relying on the concept of 'ecological and climatic state of emergency' " (Fougier, 2019b, mt);
>
> "Yes, we should be afraid of a politics of degrowth organised in the current institutional framework, not by us, but by a totalitarian minority that would use the power of the representative system to impose its specific preferences to all" (Laurut, 2019: 177, mt);
>
> "In a system where technological innovation is very decentralized (such as in current liberal and capitalist democracies), how to steer technological change in the direction envisioned by advocates of degrowth without centralized political control? In general, we should wonder whether it is really possible a radical reduction in throughput without an authoritarian imposition" (Muradian, 2019: 259);
>
> [Reflecing on life in Can Decreix, a commune in the South of France] "a life of pure degrowth is logically impossible in this world, indeed that the preconditions for degrowth society do not yet exist. Any attempts to institute degrowth from above will be seen as an intolerable offense to human dignity and well-being, so long as the rest of civilization is hitched to the train of economic expansion" (Timms, 2020).

These are serious indictments, but they are, as I intend to show, plucked from thin air. I should start by saying that it is those who understand degrowth only in its first denotation (degrowth-as-decline) who are leading the authoritarian degrowth attack. For example, Cochet (2010) argues that degrowth might turn dictatorial if not managed in advance. Same oversimplification for the website of the ENS Lyon that writes that "degrowth is not necessarily sustainable, convivial, and even less democratic. One should acknowledge that political regimes that enacted degrowth in practice were most often authoritarian, or even totalitarian" (Géoconfluence, 2009, mt). The international *Coordination of Anarchist Groups* criticises "authoritarian degrowth," which they fear could be called for by "people carrying a racist, theocratic or fascist vision of society" (CGA, 2014).[1]

Here degrowth is understood in its most stripped-down sense, including only a narrow reading of its environmental dimension (footprint going down). But if one understands degrowth as an emancipation from hierarchy and as a utopian aspiration for autonomy, then the term "authoritarian degrowth" becomes an oxymoron. "While a perspective of material degrowth is possible even in an authoritative manner, a political philosophy of degrowth requires a more coherent reflection on […] the renewal of the institutions of democracy" (Deriu,

[1] In the same text, the authors write: "rather than degrowth, we demand the socialization of production and decision-making power in society to at last rationalize the economy and meet our needs in accordance with available resources" (CGA, 2014). By now, it should be obvious that their demand aligns with the degrowth I have described in Chapter 6.

2012: 560). As French degrowthers Liegey (2010: 15, mt) avows, "an authoritarian degrowth would no longer be degrowth as we envisage it."

All fears concerning environment-led dictatorship should vanish after reading about Castoriadis's concept of *autonomy*, which represents a non-negotiable commitment to direct democracy. Degrowth cannot be done *to* people but only *by* people.[1] Is it not about wanting to control other people to tell them they should not have air conditioning (contra Levin, 2016: 9min50), it is about deciding whether air conditioners should be made in the first place and if yes, who should have them in priority. Not only can one ask who would in all their freedom decide to be ruled by a tyrant, but even if they were to do so, it would still constitute a form of heteronomy. Hence the mistake made by the *Wikilebal* (2019, mt) page for "décroissance" arguing that "the real objective of promoters of degrowth is to acquire power as to enable its implementation, a total power of social engineering."

I would also be curious to hear references from Finley (2018: 4, italics added) when she writes that "degrowth has *mostly* shied away from eco-authoritarianism" – which is as contradictory as writing that non-violence has *mostly* shied away from mass killings. If the degrowth way of life is always up for negotiations, and if all stakeholders are given a say in that discussion, then degrowth is not *mostly* against authoritarianism, it is a recipe against the very possibility of authoritarianism.

In fact, some degrowthers like Latouche (2011a: 34, mt) argue that it is growth that is more likely to lead to the rise of authoritarianism: "What is waiting for us, if we do not change trajectory, is way worse: a forced rationing based on monetary resources that will lead to planetary conflicts of escalating violence; such a situation will be a breeding ground for the fascist and xenophobic movements that we start to see today, and which will lead to management of scarcity by authoritarian dictatorships."

So this misconception is easily resolved: because degrowth "will be democratic or will not be at all" (Muraca, 2014b; Liegey, 2010: 15), then any totalitarian State, even one with strong environmental values,[2] is incompatible with degrowth. This stance is explicit in the FAQ section of the Italian *Associazione per la Decrescita*. To the question "What is the authority that can establish the right measure?" the *Associazione* answers: "No one can do it from outside and from above, but all together, following methods and procedures of self-government and community self-management. […] The degrowth society […] is necessarily a self-governing society, with a higher – and not a lower – rate of democracy" (Decrescita, 2019, mt).

Sectarian

Degrowth insists on the importance of relocation and praises the virtues of community life. *Local* currencies, *local* food, *local* democracy, and a variety of other institutions that are based on a strong definition of what a local community should be. This is often conflated with the closed localism cherished by identitarian communities such as the Amish and certain sects or the provincialism glorified by extreme-right groups like the *National Rally* (previously

[1] Elhefnawy (2019a, 2019b) is misinformed when writing about degrowth as an elite telling people what they need: "trade that car for a bike! Eat beans instead of something you would actually like (especially at the end of that exhausting bike ride)! Let us have composting communal toilets and just one square of toilet paper per visit! Use local currency! And so one and so forth."
[2] The dread of green totalitarianism (eco-authoritarianism) was here from the start of the environmental movement, and it should be reassuring to observe that, in more than 50 years, it has led to no such thing.

National Front) in France (with their new 2019 slogan: "priority to the local before the global"), Golden Dawn in Greece, and the Sweden Democrats.

> "A part of the critique of exchange made by degrowthers transpires a valorization of autonomy, of autarchy" (Di Méo, 2006: 65, mt);
>
> "there is a 'really existing localism' that has so far produced a lot of night patrols against immigrants and prostitutes, as well as various episodes of setting fire to gypsies campsites, in order to ensure the hygiene of 'lovely communities' " (Romano, 2012: 584);
>
> [In his review of Latouche's *L'âge des limites*, 2012] "And one can sense his appeal for rural society, restrained, united around shared values, exuding an 'among ourselves,' just as if the Swiss canton of Uri with its 36,000 inhabitants was his utopia" (Clerc, 2012, mt);
>
> "Such patterns of green xenophobia keep appearing over and over not due to environmental concern, but specifically because anti-modernist and the logic of limits leads inexorably to population control and immigration restrictions. And while community spirit is certainly a harmless delight, an anti-modernist political emphasis on returning to traditional customs or localist eocnomies in opposition to outside products or influences is by definition exclusionary, no less so than nationalism" (Phillips, 2015: 421);
>
> "through diminishing welfare transfers, ineffective policing etc., there would be likely be a resurgence of alternative primary 'survival' group' based on place, family, tribe, religion or ethnicity. This is very apparent in failing states such as Somalia or Syria" (Kish and Quilley, 2017: 313);
>
> "the underlying flaw is the normative conception of the community as an idyllic place where individuals can thrive and engage in altruistic, solidaristic and ecological activities. Such idyllic picture rules out the – realistic – possibility of creating backward, close-minded and repressive communities which, in the attempt to defend their autonomy and identity, may exclude everything and anyone that does not conform to the dominant *doxa*" (Mocca, 2019: 12).

Degrowth, however, promotes a different kind of localism, namely "open" or "cosmopolitan localism" (Schneider and Sekulova, 2014) or one that "does not create frontiers, which cherishes diversity and multi-level thinking while promoting the creation of open and integrative local projects as well as slow travels." It is not because there is a frontier that nothing should pass through. Ariès (2005: 204, mt) talks of "the local without the walls"; Coudray (2010: 89, mt) calls it "relative protectionism" using the analogy of the immune system that is both protecting itself from the outside while communicating with it; and Brugvin (2018: 54, mt) speaks of a "federalist solidary relocalisation," which is different from the autarky called for by extreme right movements (contra Di Méo, 2006: 65).[1]

This stance is widely shared among degrowthers.[2] In their *Peer to peer: the commons manifesto*, Bauwens et al. (2019: 40) propose the term "cosmolocalism" to refer to a "design global, manufacture local" (Kostakis and Ramos, 2017) culture where economic relocalisation does not mean cultural isolation.

[1] "In contrast with the nationalist relocalisation demanded by the extreme right, a confederalist, ecological, and social relocation rests on the four following principles: autonomous development, defence of ecology, preservation of cultural identity, and solidarity via the satisfaction of fundamental needs" (Brugvin, 2018: 56, mt).

[2] "we clearly oppose the small, but not negligible conservative strand [of degrowth]. This approach exhibits a patriarchal and nationalist understanding of the aspired relocalizations, which does not aim at an emancipatory transformation, but rather opens the leeway for right wing populism" (Dengler and Seebacher, 2019: 248).

Veillot et al. (2015) speak of an "open relocalisation" where any boundary should be questionable and discussable.[1] "From this perspective, we are not refuting the historical and cultural role that borders, regions, nation-states, and even the European Union have played in forming our identities and imaginaries. We are simply bringing up once again the question of subsidiarity with respect to the importance of dialogue between relocalised ecological regions. […] We could, for instance, think about limits in terms of distance instead of borders, thereby giving birth to overlapping, interconnected territories, rather than territories that simply happen to share a border but in fact have little to do with one another" (Veillot et al., 2015).

In his *Towards a Society of Degrowth*, Romano (2019: 32) writes that "the proposed bio-units are not supposed to be closed, autistic monads, but connected to one another with bottom-up confererations. The supposed result would be a democratic pluri-verse of cultures." Let us remember that the value of autonomy is not only material but also concerns gender, race, sexuality, and so on, which would make any such marginalisation incompatible with degrowth. A thriving local life needs not to be achieved at the expense of languishing higher political levels. One should here recall Bookchin's (e.g. 1991) federation of municipalities or Kumarappa's (1945) *panchayat* union, which guarantees both direct democracy at the local level and possibilities for political decisions at a larger bioregional, national, or international scale (e.g. for redistribution, human rights, international trade, climate agreements).

Degrowth advocates not a withdrawal but a resurgence of political dialogue and decision-making in different forms and at different levels.[2] Answering directly to Heikkurinen's (2018: 1665) concern that "radical confinement to a region" may "end up being a form of exclusive localism," the answer lies in creating a network of democratic forums for deliberation. Degrowth is not "green xenophobia" (contra Phillips, 2015: 421), a "resurgence of alternative primary survival groups" (Kish and Quilley, 2017: 313), or a prideful "among ourselves" mentality (Clerc, 2012, mt).

Here is perhaps a good place to anticipate criticisms towards Zink's (2019) plea for tribalism as a way forward for degrowth ("A Way Forward: Degrowth and Tribal Community"). Alluding to pre-modern tribal communities but not only,[3] the author argues that they fulfil all the ideas of degrowth as defined by Demaria et al. (2013):

> "Tribal communities tend to have flat hierarchies with no class systems; resource distribution is relatively egalitarian, and redistribution is often institutionalized; personal property is deemphasized or absent; tribal economies are based on gifts and reciprocity; trade is centered around subsistence rather than accumulation […] tribal members experience a strong sense of community and belonging" (Zink, 2019: 3).

[1] "When we withdraw into our own worlds and traditions, we build the walls of our own prisons. Opening ourselves up to others through travel, hospitality, and face-to-face meetings fosters well-being and helps revitalize democracy and conviviality. Open relocalisation means transcending a reductionist interpretation of our identities, limited to nationality or religion, so as to instead celebrate diversity and the many riches that it brings" (Veillot et al., 2015).

[2] "conservative, racist-nationalist and sexist currents of thought that also criticise growth go against the essence of degrowth and its fundamental orientation towards a good life and equal rights and freedoms for all human beings worldwide; there is no place for them in degrowth" (Burkhart et al., 2016: 3).

[3] Zink (2019: 4) also speaks of modern, non-hunter-gatherer tribal communities such as religious convents, agricultural communes, and the Amish.

Ultimately, he argues, the fact that these societies survived for thousands of years is an evidence of their sustainability.[1] Because of its lack of precision, Zink's claim is a nest for misunderstandings. Again: if the claim is that degrowth aims to build democratic, classless communities with strong standards of justice, where sharing and caring is common, and arbitrary authority absent, then be it (we will return to this point from a more critical perspective in the *sexist and oppressive* critique). And yet, even though degrowth does appeal to values that are quite tribe-like, the mere use of the term "tribe" risks associating degrowth, once again, with retrograde ideals.

But let us play with the argument and look at Amish communities from the perspective of degrowth: Is degrowth the "Amish-ification of the world" Phillips (2019b) fears? At first glance, one could see the Amish[2] as an example of degrowth in practice because of their selection of technologies, refusal of conspicuous consumption, strong community ties and shared possessions, ecological sustainability, and self-sufficiency. In fact, Gerber (2020: 13-14) selects the Amish of North America as one the practices that best exemplify degrowth – "a rich and complex experience that degrowth theory and praxis can learn from." Yet, several reasons come to complexify the case.

First, autonomy is often threatened in religious societies because, by definition, religion (especially organised religion) involves the belief into sacrosanct rules set by one or several gods (e.g. amplifiers are forbidden among the Beachy Amish because one should praise God with its own voice).[3] Each Amish community choses its own *Ordnung* (The Rule; a gathering of unwritten rules) but they do not do so in a full existentialist freedom but constrained by the will of a superhuman controlling power. It is belief that motivates the Amish to restrain personal possessions; because their religion implies a complete dedication to God, any private consumption reinforces the idea of personality and could lead to a pride that is not for God (hence the collective ownership of the few possessions they have).

Second, even if their lifestyle ends up being ecologically sustainable, the ethics that motivates it is devoid of environmental concerns (Lavignotte, 2008: 161-162; Le Quéré, 2018). For instance, flying is less problematic than using a car, and while using a car, its colour (which should be simple and sober) matters more than its fuel efficiency (Lavignotte, 2008). Certain Amish community restrain from using electricity, but rather because it bears the risk of inviting superfluous gadgets; others only use horses for transportation but see no problem in eating meat at McDonald's (Le Quéré, 2018: 94-95).

It is on the conviviality aspect that the Amish come closer to degrowth. The Amish cherish the right to decide which tools should be allowed based on an evaluation of its potential

[1] "Tribalism, on the contrary, has worked well for human beings for two hundred millennia one unifying feature of all surviving tribal cultures is that *they work*. If they hadn't worked, they would have disappeared long ago. Tribal systems have survived for the entirety of *Homo sapiens*'s 200,000-year existence and are the social structure of every other primate species. Surely, as we stand on the brink of collapse in our modern systems, there is something we can learn from them" (Zink, 2019: 4).

[2] Although I am aware there exist different types of Amish communities (Old Order Amish, New Order Amish, and Conservative Mennonite) which each have different degrees of acceptance towards technology, the point here applies to all of them.

[3] Exploring the question of degrowth and religion would require a controversy of its own. Here, suffice to point to the conclusion of Latouche's (2019a: 121, mt) latest book where he calls for a self-defined – one could say autonomous – spirituality, a "re-enchatment of the world." For more, see Latouche's (2019d) book on *Degrowth and the sacred* (especially the Chapter titled "Is degrowth a religion?" – his answer is *no*), the Fall 2011 issue of the French journal *Entropia* ("The Sacred: an anthropological constant?"), and the writings of French degrowther Pierre Rabhi (e.g. 2005, 2010) for a good example of a spiritual approach to degrowth.

benefits and dangers. For example, bicycles are forbidden in certain Amish communities because they come to threaten family cohesion by encouraging people to leave the house (Lavignotte, 2008: 160). Where it differs from degrowth is that they put the emphasis more on the ownership of technology than on its use. Whereas it is considered acceptable for Amish people to take a taxi, it is not to own a car. From Illich's perspective, which is the one of degrowth, both are equally un-convivial.

Survivalist

Degrowth is not a close cousin to the forms of survivalism that are increasingly in vogue in places like the United States. One article in *Philosophie magazine* titled "Less is more: American degrowth" (Blondé and Küntzle, 2016, mt) documents the survivalist attitude of a handful of outcast living in Slab City, a camp in the Californian desert whose atmosphere is closer to Mad Max than to a charming English Transition Town. This association is representative of a broader misunderstanding of objectors to growth as pre-collapse, peak nature preppers.

> "the politics of peak oil have very much been coloured by a strain of American survivalism. Since the height of the cold war many thousands of Americans ave been expetcting 'the system' to collapse and there is a whole infrastructure of militaristic training, homesteading and community networking geared to this eventuality – informed variously by fundamentalist Christianity, primitivist anarchism and other strains of environmentalism" (Quilley, 2011: 77);
>
> "at no point do you find a clean break between the deep ecological catastrophists awaiting the Peak Oil reckoning and the happy-clappy hard-right god-botherers or 9/11 Truthers readying themselves for final conflict with the New World Order" (Phillips, 2015: 203);
>
> "[…] our relation to degrowth. We are obsessed with degrowth but in a strange manner, not for a better life but to prevent hypothetical famines. We imagine the worse as to experience the joy of preparing for it; we stock everything and anything at home, every single one of our cupboards becoming a little Rungis [a Parisian marketplace]; we share recipes for flour-less cakes; we anticipate the future division of labour in the imminent planetary ZAD [Zone to Defend]. Nothing resembles more to an Amazon platform than the preparations for a neighbourhood party among degrowthers" (Bellanger, 2019: 02:43min, mt).

This misconception arises from the fact that preppers and downshifters are difficulty told apart in biophysical terms as they both adopt some kinds of reduced, primitivist patterns of consumption. Yet, surviving well (happy survival) is not the same as living well (happy life). (In its November 2012 edition, the French periodical *La Décroissance* (n°94) titled "surviving survivalists" (mt) takes a clear stance against survivalism.)

The difference is as follows. Survivalism, let it be individual (*Into the Wild*, 2007), family-based (*Captain Fantastic*, 2016), or community-based (*The Bad Batch*, 2016), is a logic of closed localism that is based on imposed scarcity, mistrust, and exclusion. It consists in surviving *against* the outside, let it be nature or others.

Degrowth, on the other hand, is a collective project of, not survival as "a desperate fight for an opportunity to eat the last living dog" (Silenas, 2015), not "mandatory vegetarianism"

after having "eaten all the pets" (contra Tucker, 2019: 27min26),[1] but living together in a chosen, post-scarcity spirit of frugality. Degrowth assumes that the source of dangers is ultimately ourselves and so that voluntary self-limitation and democratic dialogue are the safest guarantees for peace.[2] Here, degrowthers follow Gandhi (1964: 30 cited in Gamblin, 2019: 22-23) when he pleads for the dual objective of self-sufficiency (agency regarding the satisfaction of one's fundamental needs) and interdependency (acknowledging of social relations as a constitutive element of well-being).

Survivalism is dystopian for that it makes people prepare for the worst, the expectation of this doomsday scenario then serving as a compass to direct present behaviours. It is a fear-based reaction, a desperate attempt to conserve the dream of a lifestyle that is socially and ecologically unsustainable. This logic of preparing for a social or environment catastrophe having given all hope as to possibilities of avoiding it is diametrically opposed to the utopianism of degrowth. For Lepesant (2018: 238, mt), relying on the fear of collapse is the "lazy solution" that annuls all necessity for politics. In the world of the survivalists, it is weapons that do the talking. So even though downshifters and preppers may hoe their vegetable patch together, they do for radically different reasons.

An apology of misery and a romanticisation of the poor

Degrowth, they say, is an apology of poverty, a romanticisation of the poor, or both. And indeed, the titles of some degrowth texts do sound just like it: "Wealth is the problem, long live poverty!" (Décroissance Élections, 2017b) or "Designing a beautifully poor public" (LeBlanc, 2017). And yet, I will argue that this impression is mistaken.

I will start by diffusing the first misconception (degrowth is an *egoist* apology of misery) which I divide in seven claims: degrowth is deprivation, economic growth is successfully eradicating poverty, Northern consumption helps the poorest, poverty is adequately defined by a lack of income, poverty is universal, there is not enough wealth in the world, and degrowth will increase poverty in the global North. I will then address the second misconception (degrowth is an *indecent* romanticisation of the poor).

Egoist: Giving up on poverty eradication

If development is about poverty eradication and degrowth is against development, some detractors logically deduce that degrowth is against poverty eradication.

> "Degrowth is an ideological movement […]. [It is] radical and difficult to image for the 7 millions of French people who live with less than 900 euros per month" (Giordano, 2008, mt);
>
> "When I hear ecologists speaking about degrowth, I wonder: do they know that there is unemployment? Do they know that there is poverty in the world? Do they know that there is about a billion people that remain hungry and that degrowth means more misery for

[1] In a debate with French degrowther Vincent Liegey about what degrowth meant for freedom, Tucker (2019: 22min26) declared: "where you don't have a choice is in a place like Venezuela where they're out of meat. They've eaten all the pets that remain in the entire country. It's like mandatory vegetarianism."

[2] Anon. (2009) thus misconstrues degrowth when he describes it as a call for "individual action, every human for themself […] to withdraw from the modern world to save one's skin."

them?" Former French president Nicolas Sarkozy in a speech in 2009 (cited in Duverger, 2011: 202, mt);[1]

"Ask the 200 million Chinese who were farmers and who became workers and who saw their living standards quadrupling in ten years what they think about these eco-barmy theses" (Pastré, 2011, mt);

"What meaning does degrowth have for the 1.5 to 2 billion people in the poorest nations who live with less than two dollars per day, in the darkest poverty and misery? Would it not also be indecent for the 3 other billion people who survive out of expedient (precarious jobs, remittances, drug trafficking, poaching, prostitution…) and that statistician categorise as 'relatively poor'? Lastly, is it really acceptable for poor people at home (15 to 20 million French people)… who aspire to only one thing, to have a bit more purchasing power as to enjoy the benefits of a leisure society they feel excluded from?" (Chaussade, 2012, mt);

"Advocating degrowth for the whole of humanity is irresponsible, except if one accepts the risk of condemning hundreds of million people to disease, poverty, to illiteracy" (Tertrais, 2012, mt);

"In demanding a return to the past, objectors to growth […] campaign for a general regression of humanity, condemned to dry bread and voluntary poverty. […] To the eradication of poverty, a political objective for both right and left, degrowthers say: voluntary Third Worldisation for everybody" (Bruckner, 2012, mt);

"To those who want to knock out growth from objectives, I find they're close to reprehensible because for me the two defining challenges of this century are overcoming poverty and managing climate change" (Stern interviewed in Confino, 2014);

"Gandhi's economic alternative does not need 'degrowth' or reversing growth; on the contrary, he recognised the need for economic development to lift the millions of the poor from their abysmally low levels of living" (Nadkarni, 2015: 98);

"they [degrowthers] don't really want these countries that aren't developed to develop because they are a degrowth movement, they are a de-industrialisation movement, they are a de-capitalist movement. They are anti-humanity; they do not have compassion. They want poor people to remain poor" (Levin, 2016: 6min45);

"[Commenting on Hickel (2017b): "And poor countries are going to have to follow suit after 2025, downscaling [their economic activity] by about 3% per year."] "consider what 'downscaling by about 3 percent per year' would mean for 'poor countries.' […] it would be a recipe for civil strife and violence." (Rogan, 2017);

"Either as economic fact or as economic policy, however, less economic growth leads to more poverty if it is not counterbalanced by more of something else. Just less is not more. It is just less. Less of anything but scarcity" (Roth, 2017: 9);

"Is it enough a reason to advocate for degrowth, a term that, in a period of rising inequality, suggests a reduction of means of livelihood when many people struggle to make ends meet?" (Longet, 2018, mt);

[In debate with Tim Jackson] "Let me talk about a project I did in Sierra Leone. There was a near-natal intensive care unit and there were power cuts and the babies would die, for lack of power, just shocking. We used technology originally developed in Germany […], solar panels produced in China […] and we halved the mortality rate in that unit. You cannot do

[1] Here is Nicolas Sarkozy again, this time at the *Conférence internationale sur l'accès au nucléaire civil* at the OECD in Paris on March 8th, 2010: "The solution is not to be found in the ideologies of degrowth or withdrawal. The ideologies of degrowth are egoist ideologies that want to maintain poor people in poverty. This is what degrowth is: closing the door of progress and better living standards to people who have nothing" (mt).

that by some kind of nice collective, small scale, care in the community type activity" (Liebreich, 2019);[1]

"it is highly cynical to tell populations, that less than a century ago were dying of hunger, that they must tighten their belt now that they have arrived at the buffet table, just as if consumption as acceptable only if reserve to the elites. Just like in the Middle Ages" (Simard, 2019, mt);

"Most of the world's population is quite keen to obtain even rudimentary improvements in the quality of their lives, and such improvements will need technological savvy and high levels of increased, if efficient, production to be met. Given that roughly 600 million people in Africa currently live without electricity, Phillips [2015] maybe have a point" (Robbins, 2019);

"the world remains a place where most people need more rather than less in the way of material comfort, and if anything, we will need more wealth and technology, not less, in order to combat and *reverse* climate change, along with our other problems, environmental and otherwise" (Elhefnawy, 2019b, italics in original);

"An agenda that considers economic growth as a threat and says we must, instead, prioritise a 'degrowth' strategy in which we should accept becoming poorer for the sake of the planet and some ill-defined sense of what a proper, or more pure and authentic, life should be" (Massie, 2019);

[after arguing degrowth was "attempting to arrest growth in, say, the number of fridges in the world"] "…as by what right can developed nations tell the global south that they cannot keep their food fresh while they continue to do so?" (Phillips, 2019b);

[in a live debate with French degrowther Vincent Liegey] "You're advocating something that is, quite frankly, terrifying to me; it's like a macroeconomic solution to impose poverty where there is prosperity. That's a very nice luxury for men and women of the first world. Not so much for people around the world who are still struggling out of poverty" (Tucker, 2019: 6min09);

"A growing number of greenish economists think we should reduce our GDP: they yearn for 'degrowth,' as The Times reported on Friday. They wish us then, to be poorer, in the mistaken belief that the world will benefit from our Lenten abstinence from industry" (Liddle, 2019);

"Degrowth proponents are quick to insist they don't want this to appear like a politics of 'less' […]. Yet, this program's obsession with overall material throughput and GDP growth […] fails to take into account that the vast majority of people in capitalist societies also need *more material stuff*" (Huber, 2019b: Part 2, italics in original);

"Having less growth in the future would mean that many countries remain poor. No wonder Sub-Saharan African politicians are not embracing de-growth. Why would they? […] proposing de-growth for the global economy is very Western-centric and would deal a big blow to global income poverty reduction" (Wuttke, 2019);

"If we want to build a large alliance for a just ecological transition, is it really wise to wave the scarecrow of a general contraction of the economy in a world that has not yet finished its demographic transition and where poverty is far from having disappeared?" (Philibert, 2020, mt).

[1] A more direct attack from Liebreich (2019) on Jackson and degrowth/post-growth in general: "I think what you are in the business of doing is to tell principledly young, naïve people that there is some systemic, unfixable problem with our economic system. And I have a problem with that because it's an economic system that has delivered two billions of people wealth, health, extended life expectancy, education, all these amazing, extraordinary things. Things that people are unaware of because people like Tim [Jackson] stand up and say, the world is ending and it's all driven by stupid, venal people chasing growth."

Degrowth as further deprivation

The most superficial level of this misunderstanding verges on deceit. It is a variant of the misinterpretation of degrowth as a synonym of decrease to desirable things that are already scarce. Milanovic (2017c: 233) accuses degrowthers to "implicitly" calling for reducing in growth in poor countries (even though he does not provide any evidence for his assertion). Elhefnawy (2019b) calls degrowth "an elite telling [people] 'You don't need that!' in the tone haves have always used with have-nots." It is enough clearly to state this postulate to see how absurd it is. There is something painfully obvious about the necessity for the people whose needs remain unmet to access the means of satisfying them, and it would be obscene to lecture homeless people about voluntary simplicity (contra Di Méo, 2006: 111).[1]

Advocates of frugality "do not preach their ideas in the Brazilian favelas, in the rice fields of Bangladesh, or to those suffering famine in Darfur" (Liège-mpOC, 2013: 3/6, mt), to "the 7 millions of French people who live with less than 900 euros per month" (contra Giordano, 2008), to "poor Congolese kids" (contra Philipps, 2015: 170), "someone starving in Bombay" (contra Vendrillon, 2009, mt), or "under-nourished Haitian" (contra de Giraud, 2014: 59, mt). As stated in the Frequently Asked Question of *decrescita.it*, the website of the Italian *Associazione per la Decrescita*, "degrowth does not simply mean 'subtraction'; and that 'reductions' are such only for those who live, more or less consciously, in a dimension of unbridled consumerism" (mt).

So, to answer Milanovic (2017c: 234) directly, I say that degrowth is in line with the "incontrovertible" fact that "restraints on growth should be imposed on the rich" (on this issue we agree).[2] As Chancel and Piketty (2015) have showed, the spread in emissions goes from 200tCO_2e for the richest 1% people in the world to 0.1tCO_2e for the poorest, two thousand times lower. The mitigation of climate change is more the problem of Americans, Singaporeans, and Saudi Arabians than it is the one of Hondurans or Rwandans (even though, as I argued in at the beginning of the thesis, it would be more precise to target affluent *classes* – wherever they are – than affluent *nations*). Degrowth is not a "general impoverishment of the population" (contra Ann Moses, 2019, mt) but a targeted downshifting of the abnormal lifestyle of the "polluter elite" (Kenner, 2019). Degrowth is not a "tangential tactic" to equity and ecological balance (contra Perkins, 2019: 186), it *is* the pursuit of equity and ecological balance.[3]

To make things simple (I will develop further as we go through the chapter), one could say that reductions in consumption are not applicable in communities where the great majority of subsistence needs are unmet. Instead, it targets those who have already acquired the material means of securing a decent life and are over-consuming further above their fair share of natural resources. "Limits to resource use or consumption are not relevant for those who live below

[1] "What is the meaning of a call for general degrowth, for limiting consumption, for people who do not fulfil basic needs, or for those for whom poverty means being homeless?" (Di Méo, 2006: 111, mt). To this common misconception, the *Associazione per la Decrescita* answers with a rhetorical question: "What could we ever 'reduce' to the one billion people who run the risk of starvation every day and to the two and a half billion people without access to drinking water and missing the simplest toilets?" (Decrescita, 2019, mt).

[2] "if, because of improvements in the standard of living of today's poor […], the ecological balance is upset, restraints on growth should be imposed on the rich. I know that this is an especially unpopular proposition to make while the Great Recession either still goes on or has barely ended, but the reasoning behind it seems to me incontrovertible" (Milanovic, 2017c: 234).

[3] Perkins (2019: 186) misunderstands degrowth only as a type-1 downshifting: "in comparison with current realities, income redistribution is more central than degrowth per se as a step in a good direction." One such mistake has already been discussed. Suffice here to remember one of the slogan of the French *décroissance*: "the first degrowth is the one of inequality."

limits […]. For those populations who live with less than what is enough then, an increase of production and consumption is necessary, but an increase with a sufficiency limit at sight, not a self-replicating increase, where the increase itself becomes the goal" (Demaria et al., 2019: 435).[1] The downshifting aspect of degrowth as a political project, which is only one of its aspect (type-1), is therefore selective.

In his critique of degrowth, Isikara (2020) points out that the self-limitation that degrowth calls for should not be everywhere and to anyone: "it is absurd to talk about the capacity for a necessity of self-limitation for a considerable portion of the global population who barely consume and emit anything." He then calls for "an increase in the living standards of the poor and working classes through expanded provision and decommodification of essential goods and services." No disagreement here: what the author describes is *precisely* what degrowth is about.

Economic growth as saviour of the poor

Here is level two of the misunderstanding: If degrowth calls for the end of economic growth, and if economic growth enables the eradication of poverty, then it follows that degrowth hinders the eradication of poverty. "Developing countries and poor countries need growth to escape destitution; degrowth […] is a luxury for the rich" (Wasmer, 2011, mt). Conway (2019) worries degrowth means a halt of economic growth in Africa.[2] This is what Paul (2019) calls "the real inconvenient truth for degrowth fans" in an article that titles: "Degrowth fetishists, just be honest: you would make people poorer to fight climate change."[3]

A first remark would be that the link between GDP increase and poverty eradication is not that clear. Economic growth is still treated as the "talisman" of poverty-eradication programmes (Rahnema, 1992: 182), and yet evidence of a causal link is scarce. Hickel (2017d: 56-57) reports that even though global GDP per capita has grown by 45% since 1990, the number of people living on less than $5 a day has increased by 370 million. The reason why, he explains, is that growth mostly benefits the ones who are already rich.

In 2006, a study by the *New Economics Foundation* titled "Growth Isn't Working" found that between 1990 and 2001, only $0.60 out of every $100 growth in global income per capita would end up improving the situation of people living under $1 per day (Woodward and Simms, 2006). A decade later, Woodward (2015: 58) redid the same calculation with an equally disappointing result: considering the 1999-2010 period, $111 of additional growth in global GDP is required to achieve a $1 reduction in poverty. In between 1999 and 2008, 95% of the additional income generated by global economic growth went to the richest 40%. In contrast, the poorest 30% of the world population received 1.2% and the poorest 60% around 5%. Extrapolating the high growth rates of the 1993-2008 period to the future, the author estimates that eradicating poverty would take between one and two centuries (depending whether one

[1] To be more precise, one could add: a "production and consumption" *of satisfiers of human needs*, not necessarily taking the form of commodities.

[2] "Attempting to put the lid on global growth would bring to an end this astonishing pattern [talking about economic growth], especially since the countries growing fastest now are among those that will most benefit: average annual GDP growth in Africa is expected to be above 6 per cent for the next half decade" (Conway, 2019).

[3] Here is Paul's (2019) argument in full: "And when GDP falls, we all know what happens. Less people are lifted out of poverty, some lose their jobs, some lose their homes, their health may be damaged, many are less happy, and a small number may eventually succumb to the pressure."

chooses a $1.25 or $5-a-day line). At the end of the first century, the global economy would reach 15 times its size in 2010; at the end of the second century, it would be 173 times bigger.

The point degrowth makes is that "poverty" is a distribution failure which requires direct political intervention. Relying on economic growth to eradicate poverty is an excuse that delays action that could effectively end poverty. "The first degrowth is the one of inequalities. […] Our [degrowthers] cause is the defence of the poorest and the most vulnerable because we are convinced that a society should be judged based on how it treats with its most unfortunate members" (Ariès, 2010b: 4, mt). And this is why, the French *Parti pour la décroissance* ran a campaign for the 2019 European elections with an objective of "eradicating wealth," with measures such as maximum incomes, taxation of economic rents, equal retirement allowances for all, and a universal basic income.

Northern consumption as saviour of the poor

A subtler objection is that richest nations must keep growing as to be able to transfer wealth to the South via trade or aid (e.g. Lesh, 2019; Milanovic, 2017; Jakob and Edenhofer, 2014: 451; Smith, 2018; Anon., 2009).[1]

> "if we buy less minerals, agricultural products, and manufactured products from countries of the South, they will be stuck with their surplus not having an appropriate domestic demand to sale them. […] what will happen to the workers in poor countries who will lose their jobs?" (Scifo, 2008: 70 / 73, mt);
>
> "Advocating for relocalisation means abandoning entire regions of the world to an unfortunate destiny" (Vendrillon, 2009b, mt);
>
> "This free-market magic has pulled billions of people out of poverty in recent decades. It has meant we are living longer, happier, and more connected lives. A 'de-growth' agenda would threaten this progress and lock the remaining 740m people in extreme poverty there forever" (Lesh, 2019);
>
> "If major industrialized economies were to cut back their consumption and reorganize along more communal lines, who would buy all the components and gadgets and clothes that developing countries like Bangladesh, Indonesia, and Vietnam produce? What would happen to the economies of African countries such as Ethiopia, Ghana, and Rwanda, which have seen rapid GDP growth in recent years, as they, too, have started to join the world economy? Degrowthers have yet to provide a convincing answer to these questions" (Cassidy, 2020).

Dengler and Seebacher (2019: 249) report facing this critique from Indian participants during a workshop who pointed to the 1993 US Child Labor boycott in Bangladesh as an example of a reduction in consumption having disastrous effects for exporting economies. "Degrowth's call for economic localization in developed countries also conflicts with the economic interests of many producers in developing countries who rely on agricultural exports for income" (Chiengkul, 2018: 8). Indeed, if affluent countries were to reduce their consumption, it would affect other countries where exports depend on foreign demand. And because foreign aid is

[1] This concern was already addressed 40 years ago by Johnson (1978: Ch. VIII, p.203) in his advocacy of a frugal way of life in the global North: "Would this not consign the underdeveloped [sic] countries to continued stagnation and the horrible prospect of over-population and eventual famines?"

currently set as a percentage of GDP, degrowth in the North would indeed mechanically reduce volumes of foreign aid.

There is a theoretical and an empirical answer to this objection. First empirically, transfers of both money, energy, and materials are currently flowing from poor to rich[1] and so one could argue that slowing down the metabolism of rich economies would actually reduce those rates of extraction, for the benefits of poorer countries. As Latouche (2019: 41) puts it, the reality is one of a "foreign aid" of the global South to the global North. In a world with limited reosurces, degrowth requires "the north making room for the south" (Trebeck, 2016).[2] "The need for degrowth in the Global North is especially clear when it is recognised that the realisation of new urban or suburban models in the Global South […] would almost certainly involve an increase in material and energy demands" (Alexander and Gleeson, 2018: 183).

The theoretical argument builds on this empirical fact to argue that development in the North has occurred through the systematic syphoning of wealth from deprived peripheries to privileged cores via appropriation and unequal exchange. Wealth and poverty would actually be "two sides of the same coin" (Magdoff and Foster, 2011: 84). According to this "world systems analysis" theory, GDP growth (monetary value creation) somewhere occurs at the expense of exploitation elsewhere in the global economy. "To the extent that charity is enabled by the accumulation of surplus wealth it can never be a meaningful solution – for the very processes by which wealth is accumulated are those that produce poverty in the first place" (Hickel, 2017d: 256).

This being said, the dependence of exporting countries on the world market is a genuine obstacle to degrowth, one that requires a more elaborate answer than *the first degrowth must be the one of inequality* that the movement takes as slogan.

Measuring poverty

The way one defines and measures poverty matters. If, like Sen (1999), one defines poverty as the capability of living a life that is considered desirable by a certain community, then degrowth is all about the eradication of "poverty." What degrowth opposes is two things.

One is the use of Western living standards as a benchmark to assess the wealth of other people (e.g. a car, an Iphone, and an access to NetFlix as universal satisfiers of well-being). "[L]ooking at the world in terms of 'standard of living' is like looking through dark glasses; they make the rich variety of colour disappear, turning all differences into shades of the same colour. […] What sense does a rise in the standards of living have for a nomad society in the desert which aspires to lightness and frugality?" (Latouche, 1992: 280 / 291). Latouche's point is that material deprivation is only one sort of deprivation among many, and if it were the other way around (pre-economised societies listing the deficiencies of the Western of life), inhabitants of the global North would be considered deprived in other aspects such as loneliness, depression, stress, insecurity, polluted nature and so on.

[1] In between 1985 and 2009, the net monetary flow in between North and South has been of 666 billion dollars from poor to rich countries (Millet and Toussaint, 2011: 326 cited in Sersiron, 2014: 85). This is because of the logic of compound interest. Hickel (2017d: 178) reports that, in between 1973 and 1993, the global South debt grew from $100 billion to $1.5 trillion. He adds that out of that $1.5 trillion, only $400 billion was actually borrowed money, the rest being cumulated interest.

[2] Here is a more precise sentence from Trebeck (2016): "Degrowth needs to happen in the global north so the global south can have some growth, so it can use a share of the world's resources approaching a fair share to increase living standards and meet the needs of citizens. Degrowth is the north making room – quite literally – for the rest of the world."

Another is the fact that one can measure poverty in monetary terms – the "dollarized life" (Latouche, 1992: 291). Because degrowth decommodifies the provision of certain goods and services, it may look like impoverishment in GDP terms.[1] But for the sake of the argument, it is theoretically possible to live a fulfilled existence under $1.90 a day *if and only if* one can provide for all their fundamental needs without resorting to market exchange – so via redistribution, reciprocity, and sharing. In that sense, better earning $2 a day in a community where you live in relative self-sufficiency from the market than earning ten times that in a commercial society. (Of course, one must face the fact that the ability to provide for oneself outside of the economy is shrinking in most places in the world.)

A semantic misunderstanding: poverty vs. misery

The use degrowthers make of the word "poverty" is unusual. Building on authors such as Tévoédjré (1978) from Bénin or Rahnema (1992) from Iran (one could also point to Gandhi – see Gamblin, 2019), it has become commonplace among post-development scholars to contrast between *poverty* and *misery*.

Misery is imposed poverty, destitution; a situation where needs are unmet. As Latouche (2014b: 138, mt) notes, what Westerner understands as poverty can hardly be translated in many African languages, where the closest approximation is, for example here following a wolof proverb, *the one who has no one to take care of them*. So what is to be avoided when we usually talk about poverty is "social exclusion" (Lenoir, 1974), social "disaffiliation" (Castel, 2009), or "social disqualification" (Paugam, 1991), which means that the "poor" are unable to participate in social life in a meaningful manner.

Poverty on the other hand is understood in the way I have been using the terms *frugality*, *sufficiency*, *simplicity*,[2] or *sobriety*, so as the logic of flourishing with enough. Poverty describes a sweet spot above misery yet below opulence – one crucial difference being that it poverty is voluntary and not imposed. The three Southern discourses that are most often compared to degrowth (*buen vivir* in South America, *ubuntu* in Africa, and *ecoswaraj* in India) all extol notions of self-sufficiency in a context that Westerner would qualify as materially "poor." What this proves – and this is the main point of this section – is that the human quest for meaning, prestige, and respect can be organised in manifold ways, many of them not requiring capitalist standards of living.

It is in that spirit that Rahnema (1992: 190) talks of "convivial poverty," as "the ideal of a livelihood based on the age-old moral principles of simplicity, frugality, sufficiency and respect for every human being and all forms of life." This is also what brings Tévoédjré – described by Latouche (2008: 52) as a precursor of degrowth – to title his book *Poverty, wealth of mankind* (1978), a book that was he published with the direct support of Ivan Illich (another precursor of degrowth). I am here in complete agreement with Muradian (2019: 259) when he writes that "the freedom to choose to be frugal is only possible when a frugal life in no longer a social condition. That is, when it is no longer imposed by your income. […] only are free

[1] Illich (1992: 102) says it best: "By defining the poor as those who lack what money could buy for them to make them 'fully human,' poverty, in New York City as well as in Ethiopia, became an abstract universal measure of underconsumption."
[2] "By radical simplicity I do not mean poverty, which is involuntary and full of suffering and anxiety, and therefore universally undesirable. Rather, by radical simplicity I essentially mean a very low but biophysically sufficient material standard of living" (Alexander, 2017: 161).

those who have enough to choose to be frugal." But in an unequal and finite world, the *too-much* of some quickly becomes the *not-enough* of others, hence the necessity for over-consuming countries, classes, and individuals to simplify their standards of living.

Critiques of development denounce "poverty" for being a Western construct devised to dominate the so-called "developing" nations. "Global poverty is an entirely new and modern construct. The basic materials which have gone into the construct are essentially the economization of life and the forceful integration of vernacular societies into the world economy" (Rahnema, 1992: 178). Same scepticism towards Werstern's model of development when Gandhi (1961 cited in Gamblin, 2019: 57) argues that industrialism is a false solution to the problem of destitution. Being born out of the post-development scholarship, degrowth carries this scepticism towards intervention in the name of *poverty* eradication.

This being said, I think this peculiar semantic battle is a lost cause. After decades of "poverty alleviation" programmes, the work "poverty" has become, in the collective imaginary at least, synonym for misery. Just like degrowthers lost the positive connotation of "austerity" after the European debt crisis, they should consider the positive connotation of "poverty" gone. This is not dramatic, however. It makes little difference, in my view, to shift the *misery* (negative) and *poverty* (positive) duality to *poverty* (negative) and *frugality* (positive).

Sharing the misery

But what if there were not enough wealth in the world for everybody to have enough? In such a situation, degrowth would be akin to sharing the misery and returning to a "grim equality of hardship" (Thompson, 1959) or "an equality of poverty" (Phillips, 2015: 188).

> "If global income were to be stabilized at its current level, it is hard to conceive of a global redistribution other than one in which everyone has an equal share […]. Such an outcome would correspond to a *per capita* GDP of about US$10,000, well below the threshold at which diminishing returns to additional income set in" (Jakob and Edenhofer, 2014: 451);
>
> "[degrowth promises] a future of unimaginable misery for most of the world's people who now suffer from energy poverty" (Schwartzman, 2012: 121); "Supplying the minimum 3.5 kilowatt/person for the present world population of 7 billion people requires a delivery equivalent to 25TW, with the present delivery equal to 18 TW" (Schwartzman, 2014, 114). The same argument with different numbers is made by Robbins (2019);
>
> "Let us suppose, for the sake of the argument, that we interpret "degrowth" as the decision to fix global GDP as its current level […]. Then, unless we change the distribution of income, we are condemning to permanent abject poverty some 15 percent of world population that currently earn less than $1.90 per day […]" (Milanovic, 2017);
>
> "total global redistribution […] would afford the average person a standard of living only slightly better than that now enjoyed in China" (Smith, 2018).

Development economist Branko Milanovic (2017a, 2017b) was involved in a debate with degrowther Jason Hickel (2017c, 2019d) over this very issue. The first step of Milanovic's argument for which I cite him above is the same one that I debunked in *Economic growth as saviour of the poor*. But Milanovic pushes the argument further. What he argues is that existing global GDP is not large enough to allow everyone on Earth to have decent standards of living. I have already discussed the issue of indicator showing the problems of using GDP as a measure

of either affluence of destitution (*Measuring poverty*), but let me now look at the numbers, assuming that global GDP is indeed a valid measure of wealth.

Milanovic (2017a) starts with a global mean income of $5,500 per person per year. This is a debatable starting point when the global *average* income was at $10,000 in 2013 (Piketty, 2013: 108-109) and is at $13,000 today (Piketty, 2019: 33), but let us nonetheless accept that even $10,000 yearly income (€760 per month) is insufficient. Milanovic (2017a) uses this number to argue that degrowth involves reducing the income of 90% of the population of high-income countries, with decreases of around two-third in average. And this is where he makes a crucial mistake.

> "Factories, trains, airports, schools would work one-third of their normal time; electricity, heating and hot water would be available for 8 hours a day; cars may be driven one day out of three; we would work only 13 hours per week […] etc. – all in order to produce only a third as many goods and services that the West is producing now" (Milanovic, 2017a).

The author assumes that all goods and services used to satisfy human needs are commodities. While this is far from being true even in highly commoditised societies (think of community-run renewable energy project, water in a hot spring, cycling and walking), this is not an unchangeable feature of human organisation. Degrowth, as described in Chapter 6, may involve the decommodification of certain satisfiers of fundamental needs but it does not entail the dissatisfaction of the needs themselves.

Building directly on Milanovic's argument, Delaigue (2017) goes one step further: with a personal carbon budget of 1.3 tonnes of CO_2eq (the number is from Chancel and Piketty, 2015), this means that even regions such as South Asia and Africa (2.4 tonnes per capita) must reduce their emissions. His conclusion: degrowth is an "impossible equation" (mt) and only economic growth can reduce global inequality and only technological progress can reduce environmental pressures.

Delaigue's (2017) is selective in what he takes from Chancel and Piketty (2015) for that he does not point to the main result of the study, which Milanovic himself reports in his book *Global Inequality* (2017: 233, italics added): "more than one-half of all emissions are made by the global top 10%. Almost all the people in top world decile [coming] from rich countries. *Not from Africa*." What makes Delaigue's argument wobbly is the use of averages: *average* income in "developed countries" in the first step, *average* emissions in entire regions (bundling together South Asia and Africa). These averages obscure the inequality of emissions and gives the false impression that the 5.2 CO_2eq per year (this is around the French emission levels in Delaigue's data set) is evenly spread among the world population, which is far from being the case.

A second version of the same argument (there is not enough wealth in the world to curtail economic growth) is advanced by eco-socialist David Schwartzman (e.g. 2014). The author attacks degrowth by pointing to energy poverty and the fact that the present world primary energy supply is not high enough to guarantee a minimum decent threshold (3.5 kilowatt [i.e. 110 GJ] per person per year) for everybody. Concerned by this critique, Kallis (2017d) went so far as to call it an "inconvenient truth" against degrowth.

Schwartzman's (2016: 103) calculation is stated as such: "supplying the minimum 3.5 kilowatt/person for the present world population of 7.35 billion people would require a delivery

equivalent to 26 trillion watts compared to the present level of 18 trillion." The 3.5 social minimum is obtained by plotting life expectancy (data from Wikipedia, 2012) to primary energy use (data from World Bank, 2009).

The number advanced by Schwartzman is not consensual in the field. First, one may challenge using a measure of *primary* and not of *final* energy for such calculation. Indeed, it is only final energy that ends up being consumed, while the rest constitutes losses on the way.

Second, the 3.5 kilowatt/person lacks justification as an estimation. The author himself say that "the minimum necessary for the present world-highest life expectancy is now plausibly between 2.8 and 3.5 kilowatt per capita" (ibid. 104). Schwartzman contradicts his own argument by pointing to the case of Cuba: "a country that does remarkably well in health and education and has a life expectancy now equal to the United States [with an energy consumption at] 1.2 kilowatt/person, [compared to the US being at 9.6]" (ibid. 103). What he does not account for in his estimation is the fact that degrowth advocates a significantly less energy-intensive lifestyle (closer to the Cuban lifestyle than to its American counterpart).

In a more recent study, Arto et al. (2016) compare the Human Development Index (HDI) of countries with their total primary energy demand (TPED) – see graph above on the right. What they find challenges Schwartzman's critique:

> "considering the country that displays the minimum TPED with a HDI value over 0.8 for the period studied (74 GJ/cap Malta in 2000), and extrapolating its value to global population in the year 2012 (7 billion) would result on a global TPED of 518 EJ, which is 8% below the global TPED in the year 2012 (560 EJ). Therefore, from this perspective, the issue of the minimum energy requirements to reach a universal level of development could be interpreted as a mere question of inequality in the distribution of energy resources" (Arto et al., 2016: 9).

What this means is that the threshold for an HDI > 0.8 corresponds to roughly 75GJ of *final* energy per person per year, which is 32% less of Schwartzman's 3.5 kW (110 GJ in *primary energy*). Although Schwartzman's (2016) number is far from robust, the study from Arto et al. (2016) should be enough to rebut the hypothesis that reducing energy poverty necessarily requires a massive build-up of energy infrastructure. In any case, Schwartzman (2016: 114) is mistaken if he includes degrowthers in the "climate-justice activists [who] accept the collapse of civilization and call for a radical reduction in global energy consumption regardless of its impact on humanity."

After all, even if we accept Schwartzman's study at face value, what it says is only that energy needs are unmet in some regions of the world and that meeting them will require the build-up of energy infrastructure. There is nothing in this statement in contradiction with degrowth. Degrowthers would only add more specifics: the standards of energy prosperity should be frugal, its organisation should better be left to commons than to markets, and the additional resource use should be counter-balanced by a decrease in energy consumption somewhere else as to still lead for a global decline in environmental pressures.

Poverty in the global North

What about affluent communities, can they afford the shrink without plunging into a life of deprivation? Definitely not for some detractors: "the degrowthers would de-industrialise advanced economies, destroy modernity, turn plenty into scarcity" (Levin, 2015: 8min57). Building on Milanovic's (2017) $5,500 global annual mean income argument, Phillips (2019b) fears that the two third shrink necessary in the global North will not only wipe away superfluous production but also socially useful ones.[1]

How large a decrease are we talking about? Kallis (2018: 154) points to a 2/3 reduction of income in the United States that would bring it down to the average income level in 1985 Spain. Victor (2012) simulates an 80% reduction of carbon emissions in Canada, finding out that it would contract income back to 1976 levels. Gershon (2018) halves the current wealth of the United States to end up with 1976 levels also. Bruyère (2018, mt) sets his "Eco-Compatible Income" at an average of 718-1198 euros for France. Trainer and Alexander (2019: 247) estimate an 80-90% decrease in production, consumption, and resource use – even though this does not apply to everyone (contra Philibert, 2020 who misunderstands degrowth as a 80 to 95% reduction of production *worldwide*). As for Latouche (2006: 98; 2011: 65-67), he describes the level of income in a degrowth society to the one of France in the 1960s.[2]

Using his "affluence line" and "needs satisfaction line," Concialdi (2018) calculates that, for the year 2013, 60% of total household income would suffice to satisfy the minimum needs of all the French population (the minimum needs are calculated with the "reference budgets" method). This surplus was about null in the 1950s, which would have made any shrinking of consumption indeed problematic because it would directly mean some households could then not satisfy their basic needs. From 1975 to 2014, the surplus oscillated between 40% and 50% (in 2018, this surplus was between 600 and 700 billion euros, Concialdi et al., 2019: 46); this means that contracting national income by that number would not generate any poverty *if done in parallel to redistribution*.

Unconvinced, Pathokoukis (2017) asks: "Who would rather trade their current living standards and lifestyle for that of their grandparents?" Quick answer: any farmer with a deserted soil, fisher with depleted fish populations, alongside the mass of people whose livelihood has been made impossible by environmental disruption, they definitely would. This is a contradiction: one cannot both argue that the state of the environment is getting worse and that everything (including the environment) was worse in the past.

Then, it suffices to look at the empirical data shown in Chapter 1 *Well-being* to realise that, in terms of subjective well-being and in rich countries, not much has changed since the 1970s. "If it doesn't feel like we, as a society, are twice as wealthy now as we were then, it might be a sign that growth isn't all it's cracked up to be" (Gershon, 2018). Hickel (2017d: 292) makes the same argument comparing Europe with the United States: "Europe has higher human development indicators than the United States in virtually every category, with 40 per cent less GDP per capital and 60 per cent fewer emissions per capita. The excess of the United States

[1] "Could we really say, even if we conceded that production of a great many items is irrational, that a *full two thirds of production in the West* is superfluous, manufacturing trigles that we don't really need?" (Phillips, 2019b, italics in original).
[2] Interviewed about his latest book *Growth: From Microorganisms to Megacities* (2019), Vaclav Smil (cited in Watts, 2019) makes the precise same statement: "We could halve our energy and material consumption and this would put us back around the level of the 1960s. We could cut down without losing anything important. Life wasn't horrible in 1960s or 70s Europe. People from Copenhagen would no longer be able to fly to Singapore for a three-day visit, but so what?"

wins them nothing when it comes to what really matters." What this shows is that the critics' appeal to deprivation is mere rhetoric with no serious theoretical or empirical foundations.

Indecent: Romanticising the poor

Let us now turn to the second misconception: it is not that degrowth does not care about the poor, it is actually the opposite, it envies them. Here, degrowth is accused of glorifying poverty by either entertaining a myth of the noble savage where good life rhymes with simple life or by praising the values and practices that come with financial destitution. Both these beliefs, detractors argue, are a misreading of real experiences of poverty, which degrowthers can afford to glamorise only because they are themselves living a life of affluence. If downshifting is desirable, should not the ones who have nothing considered the idols of degrowth?

> "Serge Latouche and the degrowthers have a certain admiration for 'exotic' or 'traditional' societies and praise the traditional society and their social system presumably untouched and uncontaminated by the economic way of thinking" (Di Méo, 2006: 63, mt); "One finds among degrowthers an admiration for idealised, traditional societies" (ibid. 146, mt);
>
> "One should understand degrowth for what it is: a theory created by individuals living in prosperous societies. A caprice of perfectly egoist, spoiled brats" (Delhommais, 2006, mt);
>
> "there is this idea that poorer living conditions – being forced to huddle together in one room, eat more sparingly, stay at home rather than go abroad – might resuscitate British values […]. They tell us to revel in potential poverty, that being less well-off will make us 'better people' " (O'Neill, 2008b);
>
> "in the mind of degrowthers, poor countries are wonderful places and this because they are poor and protected from consumerist hubris. Behind a modest call to return to 'voluntary simplicity,' degrowthers advocate a return to poverty" (Anon., 2009a, mt);
>
> "the ideology of degrowth consists in glorifying, or even preaching, poverty and deprivation. To make people believe that poverty – which they modestly call 'frugality' – is a means of liberation. […] It is not surprising that they then glorify primitive societies […], and, even worse, depict the destitute societies of contemporary Africa as a kind of paradise to be protected at all cost against the canker of development" (Vendrillon, 2009, mt);[1]
>
> "The '*Traité'* [referring to Latouche's *Petit traité de la décroissance sereine*, 2007] is a suspicious product of a spoiled society that is not hungry and does not know what it means to be cold" (Ordonneau, 2014, mt);
>
> "As he [Taibo, 2009] characteristically writes: 'Africa, which manages to organize itself amid deprivation and to call into being a real joy of life, is probably the best background to appreciate the misery of growth and development.' It is truly outrageous that Africa's poverty and misery are portrayed by an anarchist as a model for social life, not to mention, also, the idealization of the patriarchal pre-capitalist relations of indigenous communities" (Antithesi, 2017);
>
> "one can denounce an idealisation of the conviviality and well-being of traditional societies, and especially the benefits of local solidarity" (Montel, 2017: 61, mt);

[1] Vendrillon (2009, mt) pushes his mischaracterisation further: "Would not the city of Kinshasa, in the Democratic Republic of Congo, be Serge Latouche's dream? No alienation through work: less than 5% of its 6 million inhabitants receive a wage. Rediscovering small, local agriculture: inhabitants survive on miserable vegetable patches. No cars: it is impossible in Kinshasa, unless we live in the rich districts, to find a drop of petrol. Perhaps one adult out of five is HIV-positive, but at least these people are not victims of the tyranny of consumerist, Western medicine."

> "The disparagement of growth that surfaces from time to time comes mostly from rich people in rich countries who believe that they can dispense with more economic growth" (Milanovic, 2017c: 232);
>
> "Degrowth can seduce only one type of people, those who already have everything they need and who can pretend to show contempt for what they consider superfluous" (Clerc, 2019, mt);
>
> "The idea of degrowth can seem attractive at first sight, in one of the richest society in the world [talking about Québec], but it will certainly not make consensus in developing countries, where economies have low rates of productivity, and where people live, reluctantly, following the ideals of Malthusian disciples" (Belzile, 2018, mt);
>
> "asking the part of the population that live hand to mouth to embrace 'sobriety' when this is not a real necessity seems to me particularly inappropriate" (Hiler, 2019, mt).

The equation of sufficiency (less is more) that applies to the "overworked" and "overspent" (to use the expression of Schor, 1992, 1998) does not logically revert into a "more is less" for people under the social minimum. Of course, those oppressed by material deprivation should be given access to more. Advocating sufficiency among destitute communities would be akin to giving swimming lessons to someone living in the desert: "Voluntary simplicity is thus a choice a successful corporate lawyer, not a homeless person, faces; Singapore, not Rwanda" (Etzioni, 2004: 415).

People with unmet needs find themselves in a state of imposed frugality where they are unable to choose to live otherwise. Instead, the type of voluntary simplicity that degrowth stands by is a restriction of individual consumption made by those who are already beyond the social minimum. As Ariès (2010c: 3, italics added, mt) puts it, "one can be happy with less *as long as one has enough*."

At the risk of repeating myself, I must reiterate that there is a difference between poverty and sufficiency; one is involuntary and debilitating and the other voluntary and enabling. "Involuntary poverty generates a sense of helplessness, passivity, and despair, whereas purposeful simplicity fosters a sense of personal empowerment, creative engagement, and opportunity" (Elgin, 1981: 27). The personal ethics of consumption promoted by degrowth is not called *voluntary* simplicity at random:

> "we each live unique lives and we each find ourselves in different situations, with different capabilities, and different responsibilities. […] the practice of simplicity by one person, in one situation, may very well involve different things to a different person, in a different situation" (Alexander, 2011: 195).

Defending the freedom of choice of the current so called "poor," for example to maintain a non-monetary gift-based lifestyle, is not akin to making a plea for poverty as involuntary deprivation – and not even as "voluntary impoverishment" (Milanovic, 2017b). It is precisely the opposite: protecting the ability for communities to satisfy their human needs in the way they consider most appropriate, with or without the use of markets and commodities.

For some detractors, degrowth is a luxury for rich people (Wasmer, 2011; Tertrais, 2012; Fougier, 2019; Rodríguez-Labajos et al., 2019). For insance, Gernelle (2019, mt) attacks Greta Thunberg titling his article: "More expensive than lobster, degrowth." It remains true that degrowthers write about poverty from a position of extreme privilege, but they do draw from a

non-Western literature. Two classics are: *La pauvreté richesse des nations* (1978) from Beninese Albert Tévoédjré and *Le pouvoir des pauvres* (2008) and *Quand ma misère chasse la pauvreté* (2003) from Iranian Majid Rahnema. What both these authors argue is that monetary poverty is a scourge produced by the Western mode of economic organisation and that people all over the world have different ways of defining what is wealth. These authors are good examples of the point made by Gerber and Raina (2018: 4) that "post-growth thinking is not an invention of the North" (the authors point to Indian thinkers such as M.K. Gandhi, R. Tagore, R. Mukerjee, and J.C. Kumarappa).

Whereas accusing degrowthers of glorifying individual poverty is a misconception, certain degrowth authors do argue that certain values coming alongside poverty are desirable (Ariès, 2015; Brugvin, 2018). For example:

> "the poor, the people who live with little, the marginalised are not only making a virtue of necessity, they are not only living in economic survival as Bourdieu would have said, they (re)discover, they invent, they share positive things sometime without even being aware of it, but sometime being so and saying that this life is more important than material deprivation. […] I'm thinking about these women from working-class suburbs living in the great economic misery, not even being able to buy the minimum to live. These women […] started by putting what they bought in common… They have then rediscovered the pleasure to meet, to discuss, to cook, to spend time with each other" (Ariès, 2010c: 3, mt).

In *Ecology and working-class cultures* (2015), French degrowther Paul Ariès argue that the wealthless are best stewards of nature. Along similar lines, D'Alisa (2019) paraphrases Santos (2010) and describes degrowth as "an attempt to rediscover the South that exists in the North." If these authors do idealise the poor in ascribing them these values, there is a difference between advocating values such as solidarity or equality (that may be more prevalent in certain groups) and arguing that only situations of deprivation would make them arise.

Writing about the relevance of the idea of sufficiency in the global South, Mathai (2018: 32) argues that certain practices we advocate in affluent countries are actually mainstream in others, less affluent places (even though sometimes threatened), for example non-motorised and public transport. Then, "it becomes less a question of transitioning to sufficiency in many sectors, but creatively continuing arrangements that already characterised by sufficiency" (ibid.). Studying a selection of thirty "growth-averse enterprises" in more than twenty countries in the global South, Gabriel et al. (2019: 3) argue that "potentially, the Global South could lead the Global North in the transition away from economic growth as primary indicator of success and well-being."

One could also here point to agroecological techniques, another area where the global North has much to learn from communities who have not experienced the industrialisation of agriculture. Cuba, which Boillat et al. (2012: 606) considers a "unique example of degrowth," is a good case in point. Even though facing different challenges, a country like France has much to learn from the Cuban reforms of the 1990s. My point is that there is a difference between

making an apology of poverty and being humble enough to recognise that the so-called "developing" world is, regarding certain areas, at the forefront of sufficiency.[1]

Motivated by scarcity and thus economic

Ecological sustainability is often named as the first justification for degrowth. Resources are scarce and ecosystems overwhelmed, the story goes, and so we must manage them carefully. This story has been criticised by a number of authors – I will here focus more precisely on Roth (2017) and Finley (2017)[2] – who point out that it reinforces the perception of scarcity that leads to the economisation of nature. As the market economy is currently the go-to institution to handle scarcity, calling anything "scarce" (climate space, water, wildlife but also employment or money) entices its commoditisation.

Hence the paradox: thinking about reducing environmental impacts leads to economising nature, which then subjects it to growth pressures, to finally increase environmental impacts. And this logic also applies to the social: thinking about alleviating strained communities leads to economising culture, which then subjects it to growth pressures to finally strain communities even more. This is the vicious circle of accumulation by deterioration that I have detailed in Chapter 3.

> "critiques of the commodification or economization of society have ever since remained confronted with the paradox that they co-create the problem they critique. […] any focus on *The Limits to* Growth or *The Need for* Degrowth reinforces rather than transcends the economic principle, which is the observation of scarcity […] all claims for a more economic use of scarce physical, mental, or social resources simply lead to the observation of more scarcity and thus more economy" (Roth, 2017: 1036);
>
> "the paradox of degrowth is in the circumstance that degrowth first draws the growth distinction and then aspires to observe less of what it observes, thus fighting an unsustainable observation which it sustains by means of its own observations. In doing so, degrowth proponents worship the growth fetish (Hamilton 2004) as much as economics and economists are perhaps rightly accused of doing (Kallis, Kerschner and Martinez-Alier 2012)" (Roth, 2017: 1036);
>
> "the most basic problem with the limits to growth is, again, that their evocation reinforces rather than challenges the economic principle, which is in the observation of scarcity" (Roth, 2017: 1038);
>
> "degrowth draws the basic framework of its discourse from a tradition of economic thought underpinned by the hegemonic assumption of natural scarcity. Within this mindset, nature is approached as a finite pool of resources from which society detracts. The central problematic continues to be conceived as 'growth,' and the solution continues presents itself inevitably as 'restraint.' This mechanized account of the natural world derives from bourgeois society itself. We also see this represented in the discursive field of degrowth, which is dominated by quantitative terms such as 'limits,' 'surplus,' 'consumption,' and 'sustainability.' By definition, this economistic conception of the world flattens qualitative

[1] This was already a point made by Johnson (1978: 216-19) in his advocacy of a frugal way of life, pointing to the "assets of underdeveloped [sic] countries," namely the fact that they mostly rely on local renewable resources, are well adapted to their environment, and are small in scale and decentralised. "We will have to give up comfortable prejudices about our obvious superiority and start to look at traditional cultures as having some use to use" (Johnson, 1978: 219).

[2] I am adding a sentence from Romano (2019) even though the point I quote him for is only the first step of a more elaborate criticism – one that I will discuss in detail in another controversy.

difference and reduces nature to measurable quantities. […] a degrowth framework is systematically incapable of transcending the conceptual framework which gave rise to the very problems it seeks to address" (Finley, 2017);

"By evoking the insufficiency of the environmental resources necessary to sustain the present lifestyle, degrowth theory operates a fatal reversal of the basic problem of our growth societies. […] degrowth contributes to revive the basic postulate of classic economics, that is to say the principle of scarcity." / "degrowth theory (involuntarily accepts the image provided by growth advocates of a social system haunted by a new resources penury" (Romano, 2019: 53 / 59).

In what follows, I will point to four iconic degrowth thinkers (Jason Hickel, Giorgos Kallis, Onofrio Romano, and Serge Latouche) and their different strategy to solve the paradox. Long story short, it is again a matter of understanding degrowth not only as decline (the source of Roth's and Finley's misreading) but also as emancipation and destination (the three dimensions of Chapter 5).

Let me start with one of the paper that, in my view, best portrays contemporary degrowth: *Degrowth: a theory of radical abundance*, by Jason Hickel (2019b), an anthropologist from Swaziland. The title (emphasis on the *abundance*) is indicative enough: the starting point of degrowth is not *scarcity* but *abundance*. Let us now see what it means.

Hickel points to the London housing market, arguing that the scarcity experienced by those struggling to find an apartment is not real but *artificial*. By artificial, he means socially created. It is easier to find affordable housing in Vienna than it is in London, not because there are more dwellings there, but because a large part of them are managed as social housing with price controls.[1] In his second example, he shows how the same logic is at play with the constant threat of unemployment. It is again, socially created; imagine how this perception would change with the introduction of a job guarantee scheme. His third example is about time and how it is often perceived to be running out. As Rosa (2013) explains in his theory of "social acceleration," this (perceived) time scarcity is the result of a structural logic of accumulation that is unique to modern capitalism. In the end, he concludes, it is inequality that explains artificial scarcity.

If inequality of access to goods, services, and amenities (a house, a job, free time, but also energy or fish) is what drives "the scarcity machine" (Hickel, 2019b), then the solution, as pointed by Hickel, lies in democratising access.[2] Coming back to Roth (2017) and Finley (2017), the problem is not that nature is inherently scarce but that it is unequally shared. Ultimately, it is not a *supply* issue (a need to increase how much nature is out there) but a *demand* one (a need to decrease the constantly rising wants of a minority of over-consumers).

The solution lies in the logic of commoning and gratuity that I have detailed in Chapter 6 – Abraham (2019) would say "sharing more" and "deciding together." In the "commons" entry of *Degrowth: A Vocabulary for a New Era*, Helfrich and Bollier (2015: 77) associate

[1] "Imagine if we were to even just partially decommoditize London's housing stock; for example, imagine the government was to cap the price of housing at half its present level. Prices would still be outrageously high, but Londoners would suddenly be able to work and earn significantly less than they presently do without any loss to their quality of life. […] The same thought experiment ca be applied to all social goods that have either been made to be artificially scarce or that would otherwise be simple to manage as commons" (Hickel, 2019b: 65).

[2] "The economy would produce less as a result, yes – but it would also *need* much less. It would be smaller and yet nonetheless much more abundant. In such an economy private riches (or GDP) may shrink […] reducing the incomes of corporations and the very rich, but public wealth would increase, significantly improving the lives of everyone else" (Hickel, 2019b: 66).

commoners (and thus degrowth) to a "logic of abudance," the belief that "there will be enough produced for all if we can develop an abundance of relationships, networks, and forms of co-operative governance." Degrowth is here the opposite of austerity: "while austerity calls for scarcity in order to generate more growth, degrowth calls for abundance in order to render growth unnecessary. […] abundance is the antidote of growth" (Hickel, 2019b: 66).

Let us now turn to Giorgos Kallis, a Greek political ecologist at the Universitat Autònoma de Barcelona. The central argument of his book *Limits: Why Malthus was wrong and why environmentalists should care* (2019) is that degrowth stands in stark opposition to the assumption of scarcity made by Malthus. "Like Malthus, who invoked collapse to sustain the maximum number of people possible, environmentalists, when they invoke the limits to or collapse of growth, imply that what we want is to sustain the maximum output possible for as long as possible" (Kallis, 2019c: 47). Degrowth, he argues, thinks *against* Malthus when it calls for self-limitation. It is then a mistake to refer to Malthus as a "conceptual underpinning of degrowth" (contra Finley, 2018: 2).[1]

The concept of autonomy as self-limitation from Cornelius Castoriadis (1975) does not require any external limits. Many contemporary vegans, for example, do not restrain from eating meat because it is scarce. They just think eating animals is wrong. Kallis (2019c: 120) goes one step further and argues that external limits can even hinder autonomy: "it is when there are no limits that we have to limit ourselves. And it is when we truly believe that the world is abundant that we will limit ourselves" (Kallis, 2019c: 120). (This is the difference between *natural* and *cultural* limits I made in the conclusions of Part I.)[2] Here, it becomes clear that degrowth who seeks limits for their own sake differs from "collapsology" (Servigne and Stevens, 2015) who do so because resources are getting scarce, and which then falls prey to the paradox of scarcity.

Another way to solve the scarcity paradox is to point at the concept of *dépense* from French anthropologist George Bataille (1897-1962). The concept was first brought into the field of degrowth by Italian sociologist Onofrio Romano in a 2008 contribution to the French journal *Entropia*. (For his work on *dépense and* degrowth, see Romano (2008, 2012, 2016), the entry he wrote in the degrowth dictionary (Romano, 2015), and his 2019 book *Towards a Society of Degrowth*.) *Dépense* was the central concept celebrated by the editors of *Degrowth: A Vocabulary for a New Era* (2015), who titled their conclusions "From austerity to *dépense*."[3] The passage is worth being quoted at length:

> "for us, the current socio-ecological crisis urges to overcome capitalism's senseless growth through the means of social dépense. Dépense refers to a genuinely collective expenditure

[1] Besides, Malthus is not either in Latouche's degrowth precursors book collection nor among the fifty thinkers that Biagini et al. (2017) select to present the origins of the idea of degrowth, and this for a reason.

[2] Here is the piece from the conclusions of Part I: *On the one hand, technical limits can be seen as external and commanded to avoid disaster, those often being given by experts. The logic here is the following: there are limits, therefore we should limit ourselves (I cannot do whatever I want). Like in the case of austerity politics or climate apocalypticism, the limits are already set and must be followed; it is a supply approach because if there were no limits, there would be no need for limitation. The opposite logic evokes a more political understanding of limits, setting limits for the sake of setting and having limits. People decide to limit themselves because they derive something from the act of limitation itself: we should limit ourselves, therefore there are limits (I cannot want whatever I can do)*.

[3] "Many environmentalists will find it hard to accept a non-utilitarian waste of resources, because their imaginary is so strongly wedded to the idea of natural scarcity. […] Our message to frugal ecologists is that it is better to waste resources in gold decorations in a public building or drink them in a big feast, than put them in good use, accelerating even more the extraction of new resources and the degradation of the environment" (D'Alisa et al., 2015: 218).

> – the spending in a collective feast, the decision to subsidise a class of spirituals to talk about philosophy, or to leave a forest idle – an expenditure that in strictly economic sense is unproductive. […] Such collective 'waste' is not for personal utility or for the utility of capital. It aspires to be political. It offers a process through which a collective could make sense of and define the 'good life,' rescuing individuals from their illusionary and meaningless privatized lives" (D'Alisa et al., 2015b: 217-18).

As the authors write later in the text, *scarcity is social* – then referring to the affluent societies studied by anthropologist Marshall Sahlins. Degrowth should aim for both "personal sobriety" and "social *dépense*" instead of "individual excess" and "social austerity" (ibid. 220). Again, we are back at the issue of inequality. The pieces of nature and society we over-consumers use to satisfy our "needs" have been made scarce by the immoderation of these needs.

From the perspective of *dépense*, degrowth is not about temperance and rational management of scarce resources (which would indeed run the risk of economisation). It is rather about a political process of self-limitation that strives for the collective enjoyment of these resources. The words *collective* and *enjoyment* matters. Bataille (1998: 277 cited in Romano, 2019: 45) calls it the "festive economy," which he opposes to the *capitalist economy*.[1] Following this insight, degrowth is not sacrificing alone, it is partying together. Bataille would say (I am here drawing on Romano, 2019) that the only solution to sustainability is to confront the problem of abundance, that is to individually and collectively determine what is the purpose of life. Kallis (2019) would say we should confront the idea that they are limits – even though we must also accept that we have agency in setting them. The hypothesis put forth by degrowth is that it is precisely the refusal of that introspection (the growth ideology) that is causing social and ecological degradation.

Let us turn to the last author, French economist Serge Latouche. Latouche's early work on degrowth (e.g. *Le pari de la décroissance* in 2006 or *Farewell to growth* in 2009) draws from anthropologist Marshall Sahlins' work, and especially *Stone age economics* (1972), which was translated as "*Âge de pierre, âge d'abondance*" in French (stone age, age of abundance). As the reader may recall, this issue was touched upon earlier in the *Apology of misery* misconception. Allow me here to repeat the same point. The hunting and gathering cultures studied by Sahlins that one would now consider to be living in scarcity did not see themselves in lack of anything. They did not because they had frugal aspirations. Frugal aspirations create abundance while lavish ones breed scarcity. Because voluntary simplicity aims at reducing material aspirations, degrowth can be argued to be an adequate cultural adaptation strategy to the necessary reduction of throughput in affluent societies – hence Latouche's aspirational concept, "the society of frugal abundance."

It should now be clear that Finley (2018: 4) is mistaken when she argues that "degrowth as social analysis reproduces an industrial-era imaginary of humans possessing limitless need." In fact, her arguing in favour of the "post-scarcity of Bookchin's *Post-scarcity anarchism*

[1] "either most of the available resources (i.e. work) are used to fabricate new means of production – and we have the capitalist economy (accumulation, the growth of wealth) – or the surplus is wasted without trying to increase production potential – and we have the festive economy. In the first case, human value is a function of productivity; in the second, it is linked to the most beautiful outcomes of art, poetry, i.e.: the full growth of human life" (Bataille, 1998: 277 cited in Romano, 2019: 45).

(1971) can be taken as evidence that she is saying precisely the same as degrowthers.[1] Additionally to "post-scarcity," she proposes the concept of "moral economy" from E.P. Thompson: "a moral economy can also be understood as one based on ethical principles of reciprocity, usufruct (or ownership by use), the abolition of property, and production for use and not profit. Equally important to a post-scarcity society is the politicalization and democratization of the economy" (Finley, 2017). Here again, this is degrowth 101 and we are back to Latouche's original idea of "escaping the economy," itself inspired by Polanyi's project of re-embedding the market into the social.

The paradox of scarcity is real, except it does not apply to degrowth but to the logic of growth and the system that comes with it. Degrowth does not "reinforce the economic principle which is the observation of scarcity" (contra Roth, 2017: 1036), it actively opposes it.[2] Degrowth is precisely the opposite of an "economistic conception of the world" (contra Finley, 2018: 4) for that it aims to *de-economise* the world.

Compatible with capitalism

Is degrowth compatible with capitalism? The question is misleading. What I will try to show in this section is that degrowth and capitalism are actually two competing systems. The question of whether degrowth is compatible with capitalism is equivalent to asking if an apple is compatible with an orange; it is not, these are just two different things.

In a recent interview in *Le Monde*, Serge Latouche (2018c, mt) was asked whether degrowth implied a rejection of capitalism. His answer was unambiguous: "yes, since [capitalism] is based on the pursuit of growth for the sake of growth, on the endless accumulation of capital. Degrowth calls for putting an end to infinite production to rediscover the spirit of moderation."[3] Not much disagreement here – at least amongst degrowthers. They unequivocally and openly assert that degrowth "cannot be conceived without leaving capitalism" (Tertrais, 2006, mt), is "the negation of capitalism" (Duverger, 2011: 13, mt), or is "logically incompatible with capitalism" (Schmid, 2019: 5). "A 'degrowth capitalism' […] is a contradiction in terms" (Alexander and Gleeson, 2018: 92). This is the same conclusion reached by Andreucci and McDonough (2015: 62) in the "capitalism" entry of *Degrowth: A Vocabulary for a New Era*: whether degrowthers like it or not – they criticise Latouche (2012b) for his reluctance to criticise capitalism[4] – degrowth is fundamentally opposed to capitalism.

And yet, certain detractors call degrowth a capitalist project. For instance, Solé (2015) argues that degrowth is not a revolutionary movement because they do not criticise the firm.

[1] "Bookchin uses the term post-scarcity to describe the economic and cultural sensibility that underpins the development of a technology for life. While bourgeois society is characterized by the imposition of manufactured scarcity, a post-scarcity society cultivates an attitude of abundance" (Finley, 2017).

[2] It should now be clear why Park's (2015) slogans for degrowth ("Growth without Waste" and "Society Seeking the Highest Efficiency") are highly problematic.

[3] This is not a change of mind, notice how the author pre-empted the question in his 2006 *Le Pari de la Décroissance*: "degrowth is necessarily against capitalism. Not because it denounces contradictions as well as social and ecological limits, but primarily because it challenges its spirit" (Latouche, 2006: 186, mt).

[4] This is a superficial reading of Latouche's work. In fact, in *Le Pari de la Décroissance* (2006: 34, mt), Latouche formulates the precise same criticism against Herman Daly, calling his steady state economy a form of "conservative immobilism." In *Vers une société d'abondance frugale: Contresens et controversies sur la décroissance* (2011), he clarifies the misinterpretation of seeing degrowth as being "compatible with capitalism," which he argues it is not. As he writes in *Le Pari de la Décroissance* (2006: 186, mt), degrowth is "necessarily against capitalism," not only because of its social and ecological contradictions, but because it opposes the spirit of capitalism.

Nirmal and Rocheleau (2019: 7) write that degrowth is "limited by its focus on economistic categories and measures, and its apparent acceptance of the continuing primacy of economics and politics in the capitalist-colonial one-world-world." In her entry to *Degrowth: A Vocabulary for a New Era*, Picchio (2015: 242-43) assails that "the degrowth narrative does not challenge the structure of capitalism" and that "the degrowth perspective is not broad enough to include the critique of the macro-dynamics of the present capitalist system." Others like Fotopoulos (2010b: 6) accuse degrowth of "never explicitly [questioning] the capitalist market economy" (Fotopoulos also published an article three years before titled *Is degrowth compatible with a market economy?*). They are not alone.

> "Degrowth theory is weakened every time one of its advocates seeks to show that shrinking the economy is compatible with a market economy" (Fitz, 2013);
>
> "A great many environmentalists critique economic growth but only a tiny number are anti-capitalist, preferring instead a sort of small-scale steady-state capitalism, a non-growing, Proudhonian, localist paradise of shopkeepers and farmers" (Phillips, 2015: 385);
>
> "Latouche is therefore explicitly opposed to communist revolution as the abolition of money and wage labour. […] Instead of a revolutionary change he proposes the adoption of a reformist program for the 'internalization of external diseconomies' incurred by polluting companies to society, which 'would clear the way towards a degrowth society,' following the line of orthodox economic theory. […] In this fashion, according to Latouche, society can be reoriented towards the 'virtuous path of eco-capitalism'!" (Antithesi, 2017);
>
> "The concept of degrowth does not openly advocate anti-capitalism, it does however, raise questions about the deficiencies of capitalism and whether new forms of capitalism […] can function within the ecological limits of the One Earth boundary" (Perey, 2017: 207);
>
> "some interviewees do not perceive a deep, radical criticism of capitalism in degrowth. This is not unanimous, but for several EJ [Environmental Justice] activists, degrowth proposals seem to accommodate stances within the boundaries of the prevailing system. Then, the question becomes: is degrowth an anti-capitalist position?" (Rodríguez-Labajos et al., 2019: 179);
>
> "Some of its adherents favour dismantling the entirety of global capitalism, not just the fossil-fuel industry. Others envisage 'post-growth capitalism,' in which production for profit would continue, but the economy would be reorganized along very different lines" (Cassidy, 2020).

Before attempting to settle the dispute, let us define what capitalism is. Capitalism, or the logic of capital,[1] describes a specific form of social organisation inaugurated in Europe during the 16th century in which "processes of capital circulation and accumulation are hegemonic and dominant in providing and shaping the material, social and intellectual bases for social life" (Harvey, 2014: 7). (Even though the term "capital" is used widely today, economists use it in a specific way: not only a quantity of resources like materials, tools, or knowledge but their mobilisation in the production of commodities.) Although capitalism comes in various forms,[2] it generally includes five essential features (Andreucci and McDonough, 2015: 59).

[1] I prefer the term "logic of capital" over "capitalism" because it emphasises social relations. *The logic of capital* describes it as it is, an ideology that has come to shape institutions. Furthermore, thinking of the *logic of capital* opens up questions about a diversity of alternatives (a logic of *what else*?), in comparison to *capitalism* which is too often opposed to communism and not much more.

[2] Anglo-Saxon and of the Rhineland for Albert (1991); liberal market economies and coordinated market economies (Hall and Soskice, 2001); free market, European, social-democrat, Asiatic, and Mediterranean (Amable, 2005); Nordic, Anglo-Saxon,

(1) *concentration* of the means of production,
(2) predominance of *wage-labour*,
(3) ownership of produced *commodities* by proprietors of the means of production,
(4) the pursuit of *profits*, and
(5) *markets* as the main mode of allocation.

What makes a society *capitalist* is the dominance of the logic of capital over other social relations. As the name indicates, *capital*-ism places the accumulation of capital as a supreme goal – Gibson-Graham (1996: 40) talk of "capitalocentrism." In essence, capitalism is a mode of production where two specific types of social relations prevail: one between workers and owners and the other between producers and consumers (Cahen-Fourot, 2017: 38).

What some Marxist commentators like Foster (2011) do not realise (which is not entirely their fault judging by how unclear the degrowth literature is) is that degrowthers talk of *growth*, not only as a phenomenon (increasing GDP), but as an ideology (what I have called growthism). "The ideology of growth" and "the logic of capital" have much in common. In fact, most degrowthers would agree when Marxist say that capitalism is the *syndrome* while economic growth is only the *symptom*.[1]

One difference, and the reason why I decided to write a dissertation on the *ideology of growth* and not on the *logic of capital*, is that I find the first more encompassing than the second (additionally to being clearer). Kallis (2018: 165) has a fitting analogy: "growth is the child of capitalism. But the child grew up and took over as head of the family." He continues: "The interest of capital for accumulation is promoted and legitimated through – and in the name of – growth […] Growth survived the abolition of capitalists relations in socialist countries. It survived the transition from Keynesianism to neoliberalism. Many self-declared socialists or communists today defend growth." (If you are looking for evidence, try to compare the occurrence of "economic growth" versus "capital accumulation" in mainstream news and official documents.)

The critique of degrowth as a form of eco-capitalism is analytically confused. Let us now see why. The five elements are preconditions for capital accumulation; they each rely on specific institutions as to render accumulation possible. Degrowth is in contradiction with both these preconditioning institutions (concentration, wage-labour, commodification, pursuit of profit, and marketization) and the outcome they produce, namely an accumulation taking the form of economic growth.

Capitalism leads to an accumulation of capital (even though it is worth noting that the strategy of accumulation is not always successful – think of recessions and secular stagnation). As we have seen in Part I, this accumulation is problematic for both social and ecological reasons. The economy is always connected to the biosphere (Chapter 2) and dependant on the reproductive capacity of society (Chapter 3), which puts limits on accumulation of *any* form of capital.

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continental, and Mediterranean (Sapir, 2006); oligarchic, state-guided, big-firm, and entrepreneurial for Baumol et al. (2007); Anarcho-, consumer, corporate, crony, democratic, eco-, finance, merchant, mixed economy, monopoly, neo-, rentier, and social for (Wright, 2010).

[1] [In a reply to Phillips (2019) who rejects capitalism but not growth] "They criticise De growth for failing to target capitalism for our global ills. What they do not seem to grasp is that De growth is the greatest mortal threat to capitalism" (Trainer, 2019).

Lawn (2011) argues that capitalism must not necessarily grow, for example if the profits made by some firms is balanced by others going bankrupt (assuming some form of perfect competition). This would be the "Jeffersionian-type, small-scale capitalism" that Daly (2018: 96) argues can remain within a sustainable steady-state. Jackson (2009, 2017) embraces a similar vision, even though he does not openly call it capitalism. Whether this is, in theory, possible, is still a matter of debate.[1] Smith (2010: 29), for example, writes that "ecologically suicidal growth is built into the nature of any conceivable capitalism." Steady-state capitalism, he argues, is impossible because scale is a determinant factor for survival in a competitive marketplace – the *grow or die* driver of economic growth I detailed in Chapter 1 (for a review of the Lawn vs. Smith debate, see Matković, 2018).

There is no need to find out who is right in order to reject capitalism. First, the record of actually existing capitalism shows a pretty consistent tendency to grow. To many readers, I suppose, this is enough of an ecological case against capitalism, leaving the burden of proof on the supporters of green capitalism. Besides, irrespective of whether steady-state capitalism is possible or not, and here I am merely repeating the findings of Part I, the logic of capital remains undesirable for social reasons. Take growth away and the degrowth critiques against inequality, wage-labour, commoditisation, and the commercial logic of market competition for private profit remain.[2] This is the social case against capitalism, which applies to both growing and non-growing capitalist economies (e.g. Daly's steady state capitalism).

Degrowth rejects capitalism because the constitutive institutions of the latter (the five elements listed above) are in direct contradiction with the values of the former. (1) Sufficiency stands against any *concentration* of economic wealth, let it be idle "capital" or means of production. (2) Autonomy opposes *wage-labour* – this is the postwork argument of Chapter 10. (3) Degrowth is at war against *commodities*. It is a struggle to shrink the sphere of market exchange and decommodify whatever is being used to produce along with what is being produced.[3] (4) The degrowth vision of business rejects the *profit* motive (Chapter 9). And (5) degrowth wants to replace most existing markets with commons. Degrowth not only acts on the *conditions* for growth (i.e. changing the context in which growth occurs) but also on its *precondition* (the physical and institutional elements that makes it possible in the first place) by defusing all the institutions that make accumulation possible.

Now we can clearly answer our initial question whether degrowth is compatible with capitalism or not: it is not. If these five features constitute the DNA of a capitalist economy, then degrowth is a different species entirely.

Can degrowth then be considered an alternative to capitalism? If one understands capitalism as a specific mode of social organisation relating to the provision of goods and services, then *yes*. Of course answering *yes* means that we can, for every existing capitalist

[1] To be clear: I mean possible for capitalism to *adequately function* without growing. I am here ruling out recessions and depressions where capitalism remain indeed stable, but at a great social cost (e.g. foreclosures, unemployment, austerity politics involving cuts in environmental programmes).

[2] Of course, these can be challenged as well, just like the must-grow capitalism hypothesis. In the end, whether there can be such a thing as a socially just and ecologically sustainable capitalism is a large part of what this dissertation is about. Although we are only mid-way into it, I can already conclude – and that is one way to phrase my main thesis – that capitalism cannot be achieve this twofold objective.

[3] On that point, Exner (2014: 11) misunderstands one of the core principle of degrowth by writing about a "non-capitalist market economy model of degrowth" (by definition, all *models of degrowth* are *non-capitalist* and alternatives to the *market economy*).

institution, point to an alternative degrowth institution. This is one of the core premises – and main objective – underlying the rationale of this dissertation: degrowth can become a fully-fletched alternative to growth (read: "to capitalism" or "to the logic of capital" if you have Marxist leanings). In other words, degrowth is not only a slogan or a critique; the political economy of degrowth can fully replace the political economy of capitalism.

Isakara (2020) asks: "Is degrowth an alternative to capitalism?" and answers with a *no*.[1] But he does so because he misunderstands degrowth as a call for the endless self-limitation of wants, without a structural change in social relations. He writes: "what is at stake is not replacing the straightjacket of growth (of capital) with that of degrowth, but abolishing the social relation of capital, turning the issues of 'growth/degrowth of what?', 'at what cost?', 'under which circumstances?' into political questions." As will be obvious to the reader of this dissertation, this is precisely what degrowth is about.

If capitalism and degrowth are two competing systems, the real question is how to transition from one to the other.[2] At this point, the focus of the analysis shifts from comparing two abstracts ideal-types to understanding the relation between the two. For once, whatever direction Western economies will decide to go, they will have to depart from capitalist settings; capitalism is the unavoidable starting gate of the transition. One should also note that capitalism, as any economic "system," is an abstraction. There will not be a precise moment where it can be said that capitalism is over and that we are now living in a degrowth economy. Instead, post-capitalist/degrowth practices co-exist – and often compete – with capitalist ones (Gibson-Graham, 2006). The choice is not a "should I stay or should I go" (go where? one may ask),[3] but rather which institutions to abandon, which to modify, which ones to sustain and protect, and which ones to create. We are back at the logic of autonomy as self-institution applied to economic organisation.

Markets, for example, can be more or less capitalist, or not capitalist at all (consider the difference between a local flea market, social housing, and global financial trading). Antithesi (2017) misreads Latouche when he describes degrowth as "eco-capitalism." While Latouche does not go as far as abolishing all markets, he specifies that the markets that are desirable should be local and embedded within the social. Notice how Latouche depicts African village markets (he did his PhD field work in Congo): "these markets full of colours and smells are perhaps the last rampart against the Market and its destructive effects. This practice of exchange of goods mixed with discussion, where each party reads the other to find the price that would maintain the relationship is the opposite of the *supermarket* praised by Milton Friedman" (Latouche, 2003d: 303, mt). This market he calls the "*marché-rencontre*" (market-meeting, mt) to emphasise that it is as much a social and political forum as it is a mode of allocation. These markets could hardly be described as "capitalist," in any meaningful understanding of the term.

[1] "neither self-limitation nor degrowth qualifies as a mode of production, such that they could constitute an alternative to capitalism. […] degrowth is not a substitute for capitalism, but rather a framework that aims to overturn only one constitutive element of the system. […] the degrowth literature at large becomes timid before the task of confronting capitalism as a mode of production, instead it continuously problematizes its symptoms" (Isakara, 2020).

[2] Kallis (2018: 169) makes the same point: "Whereas theoretical research on whether or not degrowth is compatible with capitalism […] is interesting, the question of whether and how a degrowth transition could start and evolve within the existing capitalist economies in which the majority of people live is more important."

[3] Perhaps the metaphor of *the exodus* leads readers astray – "advocates of degrowth in a broader sense call for an organized and voluntary exodus from the capitalist growth economy" (Petridis et al., 2015: 177);

This brings us to the importance of terminology. The argument is often made that whether a society without growth will be called *capitalism* or something else is unimportant (e.g. Jackson, 2011: 202).[1] I disagree for two reasons, one having to with scientific rigour and the other with political strategy. First, in order for economics to be a useful science, we should respect a precise typology of economic systems (even though these typologies should be critically reflected upon). In the same way that if a molecule has one carbon atom and two oxygen atoms it is called *carbon dioxide*; if an economic system has private means of production, wage-labour, commodities, profit-motives, and competitive markets, then it should be called *capitalism*.[2]

Then – and this is my second reason to care about terminology –, if we admit that the ambition of degrowth is to overthrow the hegemony of capitalist practices, I find it a poor strategy to keep the name. This has been tried already; it was called "sustainable development," with little success. Refusing to care about names is refusing to challenge the ruling imaginary. If only for that matter, I argue that we should care about names, and especially care about not calling degrowth a form of "capitalism."

A final claim requiring attention is the one that degrowth is not an alternative, but the next evolutionary step after capitalism (e.g. Boonstra and Joosse, 2013: 184),[3] which is in line with Marxist claims about the inevitable demise of capitalism. Under this view rests the assumption of a singular future, with all possible cultural experiences converging towards it. This is the same evolutionary view that presumes that capitalism emerged because it was the "best" system available at the time and not because its constitution reinforced the power of ruling actors who were then willing to actively make it emerge.

This question has occupied countless scholars through the ages and I will not be the one to end it. Suffice to say that, pragmatically, holding such a view can be disempowering for citizens as it turns them into passive witness of an immovable unfolding of history. The contending assumption holds the existence of plural futures assuming that capitalism was a choice and so will be degrowth. In consequence, the act of exiting capitalism remains an action requiring the active involvement of people – "stop making capitalism" says Holloway. Degrowth is not a fruit that once ripe will gently fall off the capitalist tree, it is a different species of tree altogether.

Criticisms

Understanding what degrowth entails does not necessarily mean agreeing with it. This second section examines criticisms against degrowth. They differentiate themselves from misconceptions in that their arguments are based on an understanding of degrowth that I

[1] "Is it still capitalism? Does it really matter? For those whom it does matter, perhaps we could paraphrase Star Trek's Spock and agree that it's Capitalism, Jim. But not as we know it" (Jackson, 2011: 202).

[2] A word of caution: it is analytically dangerous to attempt capturing the complexity of an economic system in a simple list of ingredients. In the same way that mayonnaise is more than eggs, oil, and mustard, the whole of capitalism is more than the sum of its parts.

[3] "we argue that the degrowth paradox originates in the idea of capitalism and the steady-state economy as alternative systems. It dissolves with studies of social practices that show how the two systems are not completely autonomous, but often gain shape and come into existence as reactions to each other. […] we argue that to really solve the paradox, capitalism and the steady state economy should be considered as phases or regimes that describe the same system, albeit at different points in time" (Boonstra and Joosse, 2013: 184).

consider to be accurate. Each critique points either to contradictions, limitations, or ways in which degrowth could go terribly wrong. My objective in this section is not only to comment on the criticisms it has received, but to develop them further as to explore the paradoxes, shortcomings, and dangers of degrowth. Whereas Chapter 6 treated degrowth as a utopia (an exploration of desires), it is now time to unveil its dystopian side (an exploration of fears).

Deterrent? The linguistic critique

An aversion towards its name is the godmother of all criticisms of degrowth,[1] in French (*décroissance*) and English (*degrowth*) alike. Like the appearance of a dish, the name is the first thing one encounters when learning about degrowth, which explains why even without knowing anything about the idea, one can already have a strong reaction to it.

The name has been the movement's kryptonite and detractors keeps arguing that the instinctive negative reaction that it causes risks undermining the message. Whereas certain degrowthers dismiss this criticism as superficial or are simply fatigued to address it, I believe that it should not be ignored. Words create worlds: because words are the basic unit of ideology, any ideational battle is necessarily waged in language.[2] This is why I am sceptical of the call-it-whatever-you-wish-as-long-as-it-is-what-it-is argument; names frame discussion and with it the substance of what is – and what is not – being discussed.

Historically, the debate on growth has been framed by many names: "stationary state" (J.S. Mill) and "steady state" (H. Daly), "negative growth" (S. Mansholt), "zero growth" (Meadows et al.; R. Dumont; A. Gras; T. Trainer), "ungrowth" (T. Fotopoulos), "without growth" (T. Jackson and P. Victor), "shrunk economy" (M. Göpel), "antigrowth" (I. Illich), "degrowth" (S. Latouche), "agrowth" (J. van den Bergh), "shrinkage" (W. Hoogendijk), "decline" (N. Georgescu-Roegen), "descent" and "prosperous way down" (E. Odum and H. Odum), and "post-growth" (D. Méda).

In addition, degrowth is sometimes used with a qualifier: "sustainable degrowth" (Cheynet and Clémentin, 2002a), "convivial degrowth" (Latouche, 2002, mt), "serene degrowth" (Latouche, 2003b, mt), "equitable degrowth" (Ariès, 2009: 275, mt), "socially sustainable economic de-growth" (Martinez-Alier et al., 2010: 1741) or "socially sustainable degrowth" (Asara et al., 2015), "prosperous degrowth" (Rialan cited in Duverger, 2011: 202), "environmentally motivated democratic degrowth" (Romano, 2012; Domazet and Ančić, 2017), "purposive degrowth" (McGuirk, 2017: 605), "equitable and pleasurable degrowth" (Paulson, 2016: 441), "positive, equitable, and inclusive degrowth" (Lola Navia, 2016, mt), "ecosocialist degrowth" (Brugvin, 2018: 67, mt), "socially sustainable economic degrowth" (Vitari, 2014), and also "smart degrowth," "happy degrowth" or "joyful degrowth," "chosen

[1] The first time I presented my doctoral research to the European Commission academics in charge of auditing my PhD project, I was asked a single question: "Don't you think that the word 'degrowth' is a bit off-putting?" This happens often. Actually, I cannot remember this *not* happening in all the presentations I gave about degrowth. (As a personal note, this questions leaves me every time with the feeling of exasperation a space engineer would have if when presenting their design of a new international space station, the audience would keep complaining about the colour.)

[2] This is more relevant for degrowth as a social movement and less for degrowth as an academic concept. In politics, the term must be attractive, hence the need for a semantic strategy, a marketing of some sort. Academic concepts, however, do not need marketing as they are selected on the basis of their explanatory power alone (at least in theory).

degrowth" or "selective degrowth" for the respondents of the *Grand Débat National* (see Chapter 8).[1]

In that tumultuous sea of words, the controversy centres on which name would be most adequate for the idea I have so far being referring to as "degrowth." The discussion proceeds in six parts, each referring to a specific reason why the term is ill-chosen: "degrowth" (1) is unappealing, (2) polarises, (3) excludes and confuses, (4) makes people think of growth, (5) sounds like a loss, and (6) is not the most adequate term.

"Degrowth" is unappealing

The first argument proposed by prosecutors of the D-word is that it carries negative initial feelings. In a 2014 interview, renowned linguist Noam Chomsky pronounced himself on the matter and his diagnostic was clear: degrowth frightens people.[2] In the aftermath of economic crises, talking about "degrowth" may trigger a sensitive spot, namely the phobia of negative GDP – this being especially true for the poorest and most disfranchised[3] (Makwana cited in Kallis, 2017: 147). It does not matter if degrowth is not the same as a recession, it is a "tactless term" (Montel, 2017: 65, mt) if the first thing it makes people think of is recession.[4]

This becomes a serious hindrance because the transformations proposed by degrowth necessitate the involvement of all actors and, usually, people do not mobilise under a term that scares them. For example, Gilmore (2013) argues that Black Americans may reject "degrowth" without the insurance that they would not inequitably bear the brunt of whatever sacrifice is necessary. Similarly, Chiengkul (2018: 9), Muradian (2019), Gerber (2015: 413), and Rodríguez-Labajos et al. (2019) argue that the term is doomed to remain unpopular in the global South.[5] Carson (2019: 2) calls degrowth "an unfortunate choice for a label" because of "some unfortunate visceral primitivist associations." And these authors are not alone:

> "Using ugly and frightening terms like 'degrowth' won't help pave way for a new and exciting economics. […] it has unhelpful implications of a return to the horse and cart" (Cato, 2010);
> "Employing the term 'degrowth' really comes down to preaching to the choir, rather than enlarging the group of citizens who are genuinely concerned about the environment and critical about pleas for unconditional economic growth" (van den Bergh, 2011: 886);

[1] Challenges with the translation of *décroissance* would deserve some further comment but because space does not permit a detailed inquiry here, I will refer the interested reader to Latouche (2019a: 16-18; and more briefly 2010: 519; 2006: 26) in his comparison of degrowth over *decreasing growth*, *declining*, *decrement*, *ungrowth*, *dedevelopment*, *downshifting*, *counter-growth*, *uneconomic growth*, *way down*, *powerdown*, *contraction*, and *downscaling*.

[2] "But when you say 'degrowth,' it frightens people. It's like saying you're going to have to be poorer tomorrow than you are today, and it doesn't mean that. You can be richer tomorrow than you are today. […] It shouldn't be called 'degrowth.' It should be called 'improving your lives' " (Chomsky, 2014).

[3] Rosen (cited in Kallis, 2017: 151) writes: "Since, by far, most people in the world do not have enough of many goods and services necessary for an adequate sustainable life, the term 'de-growth' will surely convey the intention that they will never be able to have such a life."

[4] "Notions of degrowth and steady-state economics also carry many negative cultural, historical and semantic connotations, which compound their political infeasibility" (Ferguson, 2013).

[5] "a discourse focused on voluntary downscaling of consumption and production is too far away from the aspirations of disadvantaged populations, which create important communication barriers" (Muradian, 2019: 258); "ideas like 'frugal living' or 'creating beautifully poor' spaces may not be received sympathetically when one has grown up in a slum or a favela with unambiguous deficiencies of sanitation or public education" (Rodríguez-Labajos, 2019: 177); " 'post-growth' has a greater appeal in the global South than 'degrowth' " (Gerber, 2015: 413).

> "The term has obvious 'public relations' issues to deal with. It is difficult to imagine a mainstream campaign emerging under the banner of 'degrowth'; it may not be the best term to use if mainstreaming that position is the goal" (Alexander, 2015: 46);
>
> "The problem is that the pundits promoting this kind of transition are using the wrong language. They use terms such as de-growth, zero growth or – worst of all – de-development, which are technically accurate but off-putting for anyone who's not already on board" (Hickel, 2015);
>
> "Degrowth has hitherto had little purchase beyond activist and academic circles because, needless to say, politicians do not win elections on platforms of scaling back consumption and shrinking the economy" (Schindler, 2016: 823);
>
> "[Talking about why the word "degrowth" is not popular in American culture] degrowth is too negative a term for the American culture of optimism. […] A downward-oriented word like degrowth produces reflexive repulsion" (Bliss, 2016);
>
> "Already in ancient Rome, down meant death. We feel down and need to be cheered up. Hell is below us, heaven is above. The association of up with good and down with bad will not change in the foreseeable future. And growth is up. Plants grow upwards. We grow up, not down. Therefore, at a deep unconscious level, growth is good and degrowth is bad. […] In a complex world where attention is scarce, first impressions are crucial. Degrowth spurs debate, but the debate will likely be lost" (Antal, 2016);
>
> "As a popular framing that can mobilize a global citizen movement or enable system change on the scale needed, degrowth is limited" (Makwana in Kallis, 2017: 147);
>
> "For the average person, degrowing is the opposite of growing, and it is indeed very difficult to understand that degrowth is not negative growth" (Montel, 2017: 65, mt);
>
> "I never use the word 'degrowth.' Never. Never. Never. The problem is not that growth is actually correlated with well-being. In our societies, growth is perceived as well-being. And so if growth is associated with well-being, degrowth means less of it" (Lamberts interviewed in Goor, 2018: 68, mt);
>
> "By centering its entire political program on the prefix of 'de' and talk of 'reductions,' degrowth has little capacity ot speak to the needs of the vast majority of workers ravaged by neoliberal austerity" (Huber, 2019b: Part 2);
>
> "whoever coined the term Degrowth has done a tremendous disservice to those who advocate scaling down the current industrial mode of production to simultaneously stop climate change and improve human conditions for all" (Asem, 2020).

And this is what makes this criticism so worrisome: even though the audience might share some principles of degrowth (frugality, care, sharing, and so on), they may just not engage because they have been "scared off" (Cato, 2010) by a first negative impression. "My concern is that the term 'degrowth' would probably be received negatively before its positive aspects were appreciated" (Ashford cited in Kallis, 2017: 142). This is why green Member of European Parliement Philippe Lamberts (2018) never uses the term: "if you speak of degrowth, the general public hears degradation of standards of living, and then you have lost the debate." Hornborg (2019b) is right in saying that "any politician who seriously advocates degrowth is not likely to have a future in politics" (Hornborg, 2019b). "Talking of 'degrowth' was a strategical mistake in terms of form, in the sense that the word scares the public" (Fougier, 2019a, mt).

And it is not only about fear. Empirically testing for a broader range of emotions,[1] Drews and Geese (2018: 5) find that "the 'degrowth' label elicits negative rather than positive affective and emotional reactions in comparison to 'post-growth' and 'prosperity without growth.' " Even among degrowth activists, the name continues to be a problem. After interviewing fifteen Belgian degrowth activists, Lievens (2015: 301-02) reports that eleven of them were critical towards the term. "It doesn't sound catchy," says veteran degrowther Onofrio Romano in his latest book (2019: 4), nonetheless titled *Towards a Society of Degrowth*. Trying to sell anything called "degrowth" in a Growth society, critics say, is poor marketing – "not particularly appealing" (O'Rourke and Lollo, 2015: 251), "infelicitous" (Daly, 2015b), or "politically unsellable" (Ferry, 2012, mt).

I can think of at least two ways of addressing this concern. First, one could say that degrowth frightens with the goal of helping people to overcome a phobia: "The purpose of using a negation for a positive project is not to frighten but to overcome a fear.

Degrowth unites all those disenfranchised by economic growth" (Stuart et al., 2017: 10). "An advantage of using a term which does not roll off the tongue easily in English is that it creates disruption" (Degrowth.info, no date). Indeed, the term "hurts [but only] seems blasphemous to us all because we live in the religion of growth" (Latouche, 2014b: 133, mt). The fact that the term provokes such an emotional reaction is an evidence of the hold of the growth ideology over people's lives (Bayon et al., 2010: 18, mt). For degrowthers it is precisely "the fear of a future without growth that has to be confronted if the discussion for a future outside of capitalism is to open up" (Kallis and March, 2015: 362). This fear can itself be a motivator for change (Grabriel, 2019: 28min12).[2] The word is "an invitation for an intellectual journey that takes time and effort" (Liegey, 2018: 22min, mt).

So instead of the fearful It-That-Must-Not-Be-Named approach of "sustainable economy," "the well-being economy," or "the economy for the common good," degrowth refuses to be governed by an unconscious fear and therefore attempts to overcome it.

Besides, one could argue that "degrowth" has been quite successful for such a hideous word. This is what I have shown in Chapter 5, degrowth as a movement has been more than once on the brink of collapse, and yet it has spread to several countries and rallied an unexpected number of adherents. Reflecting on the history of the degrowth movement during an interview, Demaria (2016) says that the term has been more successful than expected.[3] Likewise, Schneider (2017) calls it "incredibly successful" in having gained popularity among the public.

This may have to do with the fact that emotions about a word may ultimately have little impact on actual attitudes. And this is actually the second result of the empirical study by Drews and Reese (2018): "the effects of labelling on attitudes and voting intentions toward a sustainable economy are relatively small," or as their title states: "labelling affects emotions but not attitudes."

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[1] Concern, anger, uneasiness, uncertainty, fear, optimism, curiosity, joy, and hope.

[2] "degrowth (and environmental activism as a whole) often gets pushed to the side and discounted as too emotional [but] emotion is a really strong motivator; guilt, sadness, fear, on the fundamental level, I think, by any means necessary. Because we don't have time" (Gabriel, 2019: 28min12).

[3] "We have to say what needs to be said. And I think *degrowth* – I'm not saying it has done that, I'm saying it has attempted to do so, and despite many people say, oh, negative framing, doesn't work, and degrowth is a bad slogan and so on, I think it has been rather successful" (Demaria, 2016). Flipo (2015: 22) seconds that in writing in the preface of the French version of *Degrowth: a vocabulary for a new era* (2015) that whether one likes the term or not, degrowth has become a term difficult to ignore.

This leads to a final suggestion: degrowth has no intention to sell itself. The degrowth movement is a revolutionary ideology, not a brand of shampoo, and as such it is "more punk than cool" (Leonardi, 2017). "If degrowth was the name of a multinational of toothpaste, Drews and Antal [2016] would be right: degrowth is not the right word to gain (market) competition. However, degrowth is not just about raising attention, being interesting, provocative, easy to remember. It actually has a meaning!" (Schneider, 2017). The term is a "killjoy" in direct opposition to the rose-tinted, positive linguo of advertising (Coudray, 2010: 9, mt).

Degrowth stands against the marketing of any idea for that it defends people's autonomy in making their own mind about the world around them. I will here borrow a sentence from Mangan (2013 cited in Banet-Weiser and Castells, 2017: 23) in her critique of the magazine *Elle* UK's ambition to rebrand feminism: "Feminism [which would here perfectly apply to degrowth] doesn't need rebranding. It just needs to overcome the people-pleasing instincts of its majority members and focus on a few core issues, and then beat the shit out of everything and everyone in its way until those issues are satisfactorily resolved."

This was the argument of Vansintjan and Bliss (2016): "degrowth is actually punk as fuck. We're nonconforming, anti-establishment, DIY punks. And we're not trying to sound nice. Take your positivity and shove it."

"Degrowth" polarises

"Degrowth," we are told, polarises the debate. It creates an us-and-them attitude (Hopkins, 2016).[1] If the goal of degrowth is to actively engage citizens in political debate, an uncompromising take-it-or-leave-it sounding name is counter-productive. For Hiler (2019, mt), the term is "badly chosen" for that it deters some people from the important question of the energy transition. After admitting she censured herself to use the word "degrowth" in the business school where she works, Gabriel (2019: 10min 43) says that she prefers using "post-growth," which is less off-putting for discussion.[2]

Polarisation, however, is not necessarily negative. Branding something as "degrowth" protects it from being co-opted by people who do not genuinely adhere to the idea. "It is hard to imagine how neoliberalism could co-opt degrowth without degenerating into Orwellian double-speak: degrowth means growth!" (Alexander, 2015: 46). Chomsky's "improving your lives," *buen vivir*, convivialism,[3] transition towns, circular economy, the "smiley ecology" of French Prime Minister Edouard Philippe (2019b) among other feel-good slogans all suffer from the fact that it is all too easy to fit them to whatever practices. In fact, who would be against a "well-being economy" (the chosen utopia of The Well-being Economy Alliance)? In contrast, "degrowth" is "a 'dirty word' that disturbs, that stimulates a reaction and that starts a debate" (Abraham, 2011).

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[1] "What the authors (Vansintjan and Bliss, 2016) fail to recognize is that the us/them attitude that runs through this blog means that while they might attract some early adopters, they then pretty much close the door to anyone else, which would be a huge mistake, as degrowth is, in many ways, a much-needed and timely idea" (Hopkins, 2016).

[2] "*degrowth* is a more radical word. […] with *post-growth*, I feel, people are more willing to engage in a conversation. […] something about the 'de' suggests anti-growth or no growth and people automatically stop their mind" (Gabriel, 2019: 10min43).

[3] Adloff (2016, italics added) argues for convivialism: "This seems a crucial advantage to me in comparison with terms such as *décroissance*, *degrowth* or *economic contraction* that try to attach a negative prefix to the hitherto positively connoted notion of growth. So, unfortunately, it does not sound particularly attractive and I conclude proposing: let us talk about degrowth as an economic transformation strategy which integrates into a broader reform movement towards a convivial society."

After denouncing how the notion of *buen vivir* has been co-opted,[1] Kallis (2017: 175) contrasts it with degrowth: "No one would build a highway, a nuclear reactor, issue more credit or sell colas in the name of degrowth." "Degrowth" is to capitalism what garlic is to vampires (Besson-Girard, 2007a: 7); the term makes itself toxic to the dominant ideology as to avoid to have its ideals diluted by a narrow horizon of possibility. The term cannot be "recycled by those who seek to prolong the model of society which we no longer want" (Abraham, 2011); it carries a "radical critique in its very name" (Dengler and Seebacher, 2018); it is "a word that cannot be perverted or co-opted because it scares people. It keeps its meaning and its force" (Schneider, 2019c: 6, mt).

Besides, one could say that an *appealing revolutionary* term is a contradiction in terms. If nobody disagreed with "degrowth," it would probably carry little hope of change. Or, in reverse, if everybody agrees to an "alternative" (e.g. a green economy), it then means that the "alternative" is not as different from the current system. Impossible images require impossible words. If one acknowledges that the prevailing order is unsustainable, and agrees that those benefiting from that system would then oppose any attempts to change it, then any revolutionary idea will be welcomed into the world with disapprobation.

This linguistic stance is in line with degrowth's core claim, namely that the multi-dimensional crises facing 21st century societies should be approached in a political manner with no illusion of win-win fixes. It should come with no surprises that the losers of a degrowth transition would oppose it vehemently. It is thus a good thing that the term is "scaring the Davos elite" (Spash, 2018: 215). Ultimately, Ariès (2009: 15, mt) argues that "the term degrowth works even if it fails to convince" because it sets a new benchmark of radical action against which other practices and ideas can be compared.

"Degrowth" excludes and confuses

Sutter (2017: 90) worries that "degrowth will develop a narrow and self-righteous ideology, will lose itself in an arcane labyrinth, or both." Pointing to Michel Lepesant's claim that Transition Towns should not be considered examples of degrowth, Laurut (2019: 145, mt) states that it is this stance of "ostracising, closed church" that explains why the French degrowth movement has lost most of its supporters.

For Baker (2018b), if not worry, it is apathy that the term generates by appealing to growth, "an abstraction that is probably meaningless to 99 percent of the population."[2] Not many people know what Gross Domestic Product is (even less how it is calculated), so degrowth as a critique of the ideology of growth may be seen by some as arcane and esoteric. Degrowth, van den Bergh (2011: 886) writes, is mostly "preaching to the choir."

Demaria and Latouche (2019: 149) say that "the world should not be interpreted literally," but is this interpretation even possible for people outside of the field? Interviewed by

[1] "Buen vivir sounds great. Who wouldn't like to 'live well'? And indeed Latin American took it at heart: the Brazil-Ecuador inter-Amazonian highway with implanted 'creative cities' in-between is a program for 'buen vivir'; Bolivia's nuclear power programme is part of a plan for buen vivir; and a credit card in Venezuela is called buen vivir. Which reminds me of 'Ubuntu Cola' " (Kallis, 2017: 175).

[2] "I don't see how telling people we don't care about growth is going to advance an environmental agenda. As I said in my first piece [Baker, 2018a], growth is an abstraction that is probably meaningless to 99 percent of the population. People know if they have a secure job and health care, they know if their wages are rising, they don't have a clue what the growth rate is" (Baker, 2018).

Goor (2018: 61, mt), Guillaume Lepère, a consultant for a think-tank associated with the Belgium Socialist Party, calls degrowth "vague and abstruse." This is also the critique of Gadrey (2009, mt), who describes degrowth as the "intellectual strategy of an avant-garde collective" that will fail to educate the broader public.[1] Indeed, "degrowth" bears little power as a missile word if people cannot grasp what it means.

This critique of "degrowth" not being an accessible term is particularly devastating judging how much conviviality matters for degrowthers. Reflecting on my exploration of the degrowth literature, I do sense the necessity to emancipate from the thoughts of the precursors (Illich, Gorz, Castoriadis, Ellul), not in content but in the form, and especially when communicating to a broader public. Degrowth is often unnecessarily academic, which is why I spent some effort in Chapter 6 with analogies, examples, and everyday situations. If we degrowth scholars cannot make "degrowth" meaningful (either appealing or provocative) to the people in the streets, then we should indeed use a different term.

Another insight I take from experience is that timing matters. Throwing "degrowth" at the beginning of a conversation, especially in a place where it might be flagged negatively (in my case, the European Commission and a department of development economics), either ends the conversation or turns it into a feud. Kate Raworth (cited in Kalllis, 2017: 179) is not a big fan of the word for this precise reason: "degrowth turns out to be a very particular kind of missile: a smoke bomb. Throw it into a conversation and it causes widespread confusion and mistaken assumptions."

I find it to be a much better strategy to start the conversation with a more compromising, inclusive language. It is only once a discussion has reached a certain stage that I drop the D-bomb, which is then as startling as it can be. This makes polarisation positive and can lead to a constructive dialogue about the link between economic growth and social-ecological justice. (Attentive readers will realise that this is the approach I have taken in the present monograph where I did not mention "degrowth" at all in the first four chapters.)

"Degrowth" makes people think of growth

Another reason to censure D******* is that the term is etymologically rooted in the ideology of growth. And indeed, the term "degrowth" makes it difficult to not think about growth. It is linguist George Lakoff's (2004) famous "don't think of an elephant": the first think degrowth makes us think about is that thing we are trying *not* to think about.

In an online seminar, Lakoff (2015 cited in Drews and Geese, 2018: 2) was asked specifically whether "degrowth" is an adequate term to communicate with a more general audience. His reply was unequivocal: "No, it isn't." "Although direct negation (e.g. *degrowth* negates *growth*) may appear to logically undermine a frame, it activates the frame in our brains, strengthening its physical neural basis" (Lakoff cited in Kallis 2017: 177).

Similarly, Rist (2008: 243, mt) warns against using a word that sounds like the opposite of growth because "it carries the debate on to the terrain of economics from which one claimed to be breaking free." For Romano (2012: 4 / 34), the term "implicitly embeds the alternative

[1] "to choose a term that requires further reading to understand that it means something else that what it seems, this is a serious limit to the popularisation of ideas! Isn't it the intellectual strategy of an *avant-garde* group that would be intelligible to its members but not to the outside? Considering popular education crucial, this is why I am reticent with the term" (Gadrey, 2009, mt).

into the economic imaginary," it is "dipped in economic fetishism." "[T]he term degrowth is a 'clumsy' flag because it is defined by the negative of a term that is already so saturated with meaning" (Lievens, 2015: 204, mt).[1]

Dean (2015) elaborates on the same argument: " 'Degrowth isn't a different frame from 'growth' – it entails the same set of conceptual metaphors: an entity ('the economy') with a single aggregate measure ('growth'), and the implication of a top-down policy whose primary objective is to increase or decrease/stabilise 'it.' Both 'growth' and 'degrowth' are single, quantitative ends for 'the economy.' " Same criticism for Tremblay-Pepin (2015: 118) for whom the duality growth/degrowth limits the imagination of an emancipatory political project. Stirling (2016c) argues that "by simply inverting the terms of its target, a narrow 'degrowth' critique risks counterproductively reinforcing the prevailing hegemony of monetary value in current real-world politics."

Comparing "degrowth" to the contested term "non-white" in South Africa, Rodríguez-Labajos (2019: 178) advises against "naming a movement as the inverse of a 'false solution.' […] Branding a movement as the denial of that which is being challenged, could contribute to legitimising that existing structure and disempowering the movement." Along similar lines, Swift (2014: 174, mt) regrets that "too often, 'degrowth' is seen as a negative concept, as a reaction."

On that point, the pro-degrowth side of the debate would respond that the reflection must start within the frame of growth as it is today the default mode of thinking.[2] Economic growth has become so pervasive that it is impossible to think outside of it,[3] and so liberating the imaginary from this hegemony requires a semantic escape, which, like any escape, starts from inside. "We do not need to say *degrowth* to have the notion of *growth* activated in our brain, it is already active by default. Saying *degrowth* helps to deactivate it instead, or at least to realise it is there and question it" (Barca, 2017a: 2, italics in original).

The term *décroissance* was created by a former marketing consultant and a comedian, whose communication strategy was precisely to startle and provoke.[4] It is "a defensive word against the obvious that we want to pulverise: the necessity of continued economic growth" (Abraham, 2011). Abraham (2019b: 36, mt) admits the word sounds "unpleasant," but he explains that it is precisely why it is powerful, comparing it to what Kafka says about a good book being "an ice-axe to break the seas frozen inside our soul." This is also what the Italian *Associazione per la Decrescita* answers when asked why they use a term that elicit negative reactions: "Because it is the term that best focuses on the origin of the planetary ecological and

[1] Carson (2019: 50) makes the same point: "we should probably find a better term than 'degrowth' because 'growth' itself is a word that conjures up all kinds of visions and associations to different people, and those associations tend to overwhelm whatever substantive content it possesses."

[2] "The term degrowth may suggest an economistic emphasis, but degrowth is meant (rather) to open up the opportunity for dis-embedding life from the totalizing effects of current economic structures and processes" (Demaria et al., 2019: 432).

[3] In the same way that we refer to what is not capitalist as *non-capitalist* or what is not modern as *pre-modern* or *post-modern*, it feels unavoidable to name alternatives to growth without referring to that which they seek to escape.

[4] Consider how Cheynet (2008: 73, mt) – the marketing consultant – justifies the communication strategy behind the word: "Degrowth is meant to be an 'act of communication' to spread an idea across society. […] To grab people's attention, in an environment glutted with information, growth objectors use an economic term, a sphere that dominates in our society. This way, they manifest empathy by projecting themselves into the imaginary of their fellow citizens. Then, they call them to mind by using a word that is radically opposed to the orders that them follow. The objective is to surprise them, even to provoke them, in order to grab their attention" (Cheynet, 2008: 73, mt). Likewise, by asked whether "degrowth" is "just a marketing strategy," Latouche (2019e: 83) replies that "it is a strategy aimed at fostering collective awareness, it is a form of pedagogy: how to engender people's reaction, how to become aware?"

social crisis: the obsession of economic growth at all costs" (Decrescita, 2019, mt). Degrowth might be "awkwardly labeled" (Smil, 2019: 494), but that is because it is meant to sound uncomfortable.

Ultimately, you can only persuade people by talking to them in terms that they know, starting from the situation they find themselves in. In the same way the Alcoholics Anonymous is not called the Sober Club, it would be unsuitable to trade "degrowth" for "post-growth" (or any of its emancipated-from-growth names) too early. Besides, placing the reflection within the frame of growth is performing an act of "intellectual and emotional ju-jitsu: turning what is seen as positive in the growth narrative against it" (Burton, 2019). Thinking about growth to defeat growth: "we don't want to be fake-nice about it. We want to name and shame our enemy" (Vansintjan and Bliss, 2016).

"Degrowth" sounds like a loss

A problem with "degrowth" is that it emphasises a loss. Prospect theory in behavioural economics has shown that people are more averse to losses than to gains (Kahneman and Tversky, 1979), and because degrowth sounds more like a loss than a gain, then the concept is, some argue, cognitively doomed to remain unappealing. Psychologist Barry Schwartz (2004: 73) talks of an "endowment effect" to describe the fact that it is more difficult to take something out than to add something in (e.g. "declaration of independence" sounds more appealing than "declaration of decolonisation"). This would mean that terms such as "buen vivir," "circular economy," or "capitalism with a conscience" are more alluring than "*anti*-globalisation," "economy *without* growth," or "*de*growth."

Roth (2017: 1038, italics in original) comments on Latouche's "less is more": "because people are observed to find it hard to define their lives as footprints of their omissions and abstinences as long as these forms of *less* are not good for a *more* of something." Jouili (2018) argues that the word "degrowth" is a pure negation that repels because associated with unappealing notions of "nothingness" and "emptiness." Karlberg (cited in Kallis, 2017: 147) sees degrowth as limited because "it connotes a limiting negative vision (what not to do) rather than a generative positive vision (what to do) for the economy." Stirling (2016c) writes that "suspicions about simplistic rejection of any kind of growth, may have a disabling effect on movements for sustainability and social justice."

Indeed, "[i]n the kingdom of growth, 'reduction' is a blasphemy, a heresy that scandalizes and turns people away. It conjures up murky pictures of a time when you could die from tetanus, you exhausted yourself doing the laundry: when you only had a candle to light you and cold could kill" (Gesualdi, 2009: 8).

Before he himself started to use the term "degrowth," Jason Hickel (2015) called it "repulsive because [it] runs against the deepest frames we use to think about human progress, and, indeed, the purpose of life itself. It's like asking people to stop moving positively thorough life, to stop learning, improving, growing." For Huber (2019b: Part 2), "the prefix 'de' and talks of 'reductions' " will not speak to economically vulnerable households. Rodríguez-Labajos et al. (2019: 177) writes that "the use of the term 'degrowth' is in itself negative and goes against the mindset and basic principles of living and working hard." For Smil (2019: 510-11), degrowth is "inelegant and inaccurate newspeak," that is "using regress as a qualifier of

civilizational achievement."[1] Tissot-Colle (2020, mt) says that "degrowth" makes her feel uncomfortable: "it's the idea of *less*, the idea of *not good*." Chassagne and Everingham (2019: 1910) captures it all when they allude to degrowth as a "deficit language."[2]

To the 'what do you want to be when you grow up?' question, *smaller* might be a less satisfying answer than the *bigger* suggested by growthism.

Here is a possible way to address this criticism: if "degrowth" sounds like a necessary reduction in consumption, that is because it is. The term does not sugar-coat the drastic changes in lifestyles that are necessary to reduce environmental pressures. "To be sustainable, these alternative systems will have to have lower economic output than the one enjoyed by 'advanced' economies today. The word 'degrowth' captures pretty well, even if imperfectly, what it will be like" (Kallis, 2017d: 6).[3] The term "directly and boldly evok[es] the need for overall contraction of energy and resource demands in the wealthiest nations" (Alexander and Gleeson, 2018: 20). If ecological sustainability is a goal, and if one acknowledges that certain people are today consuming more than their fair share of resources, then degrowth necessarily involves a reduction (even though degrowth is not only about that reduction).

Not only is the term straightforward in describing a necessary decrease in consumption, but the negation could well be understood as a gain and not as a loss[4] (Kallis and March, 2015: 362; Caresche et al., 2011: 10). Rey (2018: 30, italics added, mt) illustrates that point with the following analogy: "Accusing [degrowth] for being 'negative' is absurd: it would be like saying to someone who has reached a weight of 150, 200, 250 kilos that they should not consider a diet because '*losing* weight' is a negative idea. The point is not to lose weight to lose weight, but to lose weight in order to be healthy." In the same spirit, LeBlanc (2017) uses the term "sweet decline," and Latouche (2019a: 16-17) speaks of a flooded river whose decrease is desirable. Schneider (2017) acclaims: "Let's degrow up and grow down!" and writes that "degrowth is about less, because lightness elevates. Look at a balloon that gets lighter! Getting fatter is not necessarily 'up'!"

Not all losses are undesirable and not all gains are desirable.[5] Fundamentally, any concept involves both aspects. "Independence" is a *loss* of dependence, which is interpreted as a *gain* of freedom; "deregulation" will be interpreted differently depending on the type of

[1] Here is a full quotation from Smil (2019: 510-11): "having deliberately declining levels and performances (or, in inelegant and inaccurate newspeak, 'negative growth' or 'degrowth') as its widely accepted and broadly pursued way of regress. This noun alone illuminates our predicament: using regress as a qualifier of civilizational achievement, after a long-lasting addiction to progress, seems unreal."

[2] One of the artist of the 2019 Oslo Architecture Triennale (Ampparito from Spain) describes the logic behind their installation (small trees planted upside down): "it's hard to find examples of living things 'degrowing' – when they do, it's usually a precursor to death, a kind of reverting back to how we were in the beginning – like asking to be young agan at death's door. The Spanish for upside-down is 'bocabajo,' which in Puerto Rico and Cuba describes a kind of torture. This also seemed like a good analogy for our prospects of achieving economic degrowth!" (cited in Benzine, 2019).

[3] "New Economy does not use the word 'degrowth' in the description of its vision for the economy, but instead 'zero,' or 'without,' or 'beyond' growth. Perhaps this is because of a fear that 'degrowth' will scare the public and the politicians. But sometimes one gets the impression that some new economists really believe that a transition to a Cinderella, low carbon economy will not involve the material sacrifice implied by degrowth" (Kallis et al., 2012: 3).

[4] "The utopia affirmation is not to be found in the negation itself but in the synthesis provoked by the negation. Degrowth is not an affirmative imaginary that signifies the opposite of growth; it is an imaginary that by confronting growth opens up new imaginaries, spaces, and key words" (Kallis and March, 2015: 362); "in the term 'degrowth,' the prefix 'de-' should be understood as a detachment, a distancing, an independence, particularly from a general logic of excessive predation over the planet, rather than a diminution of the wealth created" (Caresche et al., 2011: 10, mt).

[5] "I told you my friend went to the doctor who told her she had a *growth*, well that feels very different, because we intuitively understand that when something tries to grow forever within a healthy, living, thriving system, it's a threat to the health of the whole" (Raworth, 2018: 14min, italics added).

regulation and how one feels about regulation in general. The widespread success of other negative, losses-focused words such as "decoupling," "non-violence," and "anti-slavery" (or even more everyday terms such as "disinfection" or "declutter") shows that it is the context that ultimately determines whether a loss is perceived as a gain or vice versa.[1] (One should remember that one of the most popular growth-critical concept is "prosperity *without* growth.") The negative reaction to degrowth is ideological and not merely a matter of linguistics: degrowth sounds ugly only because we love economic growth so much.

"Degrowth" is not the most adequate term

New revolutions require new words (Ariès, 2009: 159, mt) as the old ones have been soiled by the failed experiments of the past (e.g. *socialism* by national socialism, *communism* by the Soviet Union). A third reason to reject degrowth is that it could be possible to find a better word for it. Rodríguez-Labajos et al. (2019: 182) conclude their article after arguing the term "degrowth" was unappealing in the Global South: "alternative terminologies need to be found."

It is in this spirit that certain objectors to growth and commentators have proposed alternative names such as *agrowth* or *postgrowth*, but also *D.Egrowth* (Antal, 2016) for "delight and equity growth," *DE-[Constructing] Growth* (Ashford, 2016), *outgrowth* (Stirling, 2016c), *ex-growth* (Morgan, 2016: 149), or *metagrowth* (Jouili, 2018, mt).

<u>Agrowth</u>

Agrowth was initially proposed by Latouche (e.g. 2009: 8) together with degrowth: "Strictly speaking, we should be talking at the theoretical level of 'a-growth', in the sense in which we speak of 'a-theism,' rather than 'de-growth.' "[2] It is only recently with the work of van den Bergh (first in 2011) and Raworth (2017: chap.7) that "agrowth" distanced itself from the thought of Latouche and became an approach of its own.

> "The first way of contributing begins with recognizing that the GDP indicator, rather than GDP growth, is the problem, and that we should ignore it in public debate on policy and welfare. By implication, one has to be "agnostic" about, or indifferent to, economic growth, with has been referred to as an "a-growth" perspective" (van den Bergh and Kallis, 2012: 910);
>
> "one should take an agnostic view towards economic growth and concentrate on environmental problems directly rather than focusing on 'degrowth' […]. The battle to persuade policy makers that their obsession with economic growth is misplaced and that less growth or even 'degrowth' is in the social interest is simply hopeless and a political non-starter. Moreover,

[1] More examples from Kallis (2018: 159): "There are also many cases where 'anti-elephants' contested elephants: atheism, anti-slavery or deregulation. The fact that these terms evoked a negation of the terms they were confronting did not work against them by reinforcing the reference frame." Here is Spash (2018: 215) complaining about the those arguing degrowth should be made more positive sounding: "Presumably opposing the nasty side of humanity – slavery, violence, torture, rape, pollution – should also never be conducted in oppositional terms (e.g., against, anti, non) for fear of empowering the perpetrators? Harsh realities should be made soft."

[2] Latouche (e.g. 2018: 3 and 2018b: 278) and other French scholars, activists, and politicians are still using the term in its original meaning. For example, in the concluding paragraph of the January 2018 degrowth call initiated by a group of French degrowth scholars "We, ecologists, altermondialist, degrowthers, objectors to growth in pursuit of the good life, are calling for a collective initiative to create a project to transition towards a just and democratic *a-growth* society" (Ariès et al., 2018, mt). Liegey et al. (2013: 27, mt) describe degrowth as "the transition from a growth society to an a-growth society, a post-growth or post-development society." And also François Ruffin (MP, *La France Insoumise*) in his September 2018 speech at the French National Assembly.

it is not needed: environmental pollution is the enemy, not economic growth" (Neumayer, 2013: 98).

The agrowth strategy (also "growth-neutral paradigm"[1]) argues that one should not be either pro- or anti-growth but rather "agnostic about GDP growth" (van den Bergh, 2017: 109), this approach being more likely to be supported by the public.[2] Raworth (2017) proposes a "growth-agnostic economics" (ibid 269), or the replacement of "economies that need to grow, whether or not they make us thrive" to "economies that make use thrive, whether or not they grow" (ibid. 30) with GDP "bobbing and dipping in response to the constantly evolving economy" (ibid. 284). Van den Bergh's agrowth is a critique of degrowth, which the author sees as ineffective at best and potentially counter-productive in achieving environmental goals.[3] "If we sell climate solutions as degrowth, then support for these is likely to diminish rather than rise over time" (van den Bergh, 2018: 63). This is precisely the same position defended by Bartkowski (2014): "stop debating (de)-growth and focus on what is important!" This agrowth position should be regarded with caution for a number of reasons.

The new *agrowth* perspective is too narrow for that it only targets GDP without addressing the institutional and mental infrastructure that has grown around it (what I have referred to as growthism).[4] In fact, Latouche coined "a-growth" more than ten years ago precisely to emphasise that growth was not only an indicator or a phenomenon, but a religion. Justifying the use of the term "*acroissance*" (agrowth), he writes: "Abandoning the faith in and religion of progress and development is precisely what it is about. One should become atheists, or at least agnostic, of growth and economy" (Latouche, 2019: 4-5, mt).

Van den Bergh uses of the term stands on a misconception of degrowth, namely its interpretation as negative GDP. Van den Bergh (2017: 108, italics added) points to his own misunderstanding: "I acknowledge that these critiques mainly apply to degrowth in a narrow sense of GDP decline. Indeed, degrowth is also interpreted as less consumption, work-time reduction, anti-capitalism, or simply physical degrowth. Nonetheless, the focus of this Review is on the interpretation of GDP decline, *which is widespread and underlies much of the literature on degrowth*." For having freshly reviewed the entirety of the degrowth literature, and as shown earlier in this chapter, the author's last claim is simply inaccurate.[5]

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[1] This approach is by no means new. In *Towards an Inclusive Democracy* (1998), Fotopoulos spoke of "ungrowth" to describe a society that would have done away with the objective of economic growth. Along the same lines, Hayden (1999: 5) wrote that: "Low GDP growth, or even no growth, is almost certainly far more compatible with ecological sustainability than a rapid growth strategy. That does not mean, however, that we should necessarily target zero-growth of GDP, or any other rate of economic growth whether positive or negative, as a goal in itself."

[2] "by ignoring GDP growth and thus being neutral about growth, an agrowth strategy facilitates the acceptance of serious climate policy" (van den Bergh, 2017: 110).

[3] "It [degrowth] can be interpreted as complicating climate policy with a quest for radical change. Degrowth is unlikely to be an effective strategy for creating broad political support given that it focuses on variables with an indirect link to emissions, instead of on the carbon content of growth" (van den Bergh, 2018: 62).

[4] Kallis (2018: 153) makes the same claim: "The degrowth goal is indeed social and environmental transformation, not a reduction in GDP. But Latouche's a-growth was an active strategy of dethroning and abolishing growth, not just GDP, aware of the political struggles and institutional changes involved. This is different from van den Bergh, who assumes that abandoning GDP or pricing carbon is just a matter of getting policies right."

[5] This is seconded by Kallis (2017e): "While agreeing with many points of van den Bergh's excellent review of the growth versus climate debate, I would like to point to a fundamental misrepresentation of the quoted research on degrowth: degrowth is not a strategy 'aimed at reducing the size of the GDP.' " When van den Bergh (2018: 61) proposes to use a "more subtle classification of viewpoints in the growth debate," he picks one of his own framework from 1999 (Bergh and de Mooij, 1999) that predates the emergence of the term "degrowth," which makes his analysis obsolete. The authors muddles in his own misunderstandings: "degrowth does not follow a clear welfare approach and is not focused on sharply distinguishing between

Assuming that this approach was analytically interesting (I just argued it is not), it would nonetheless be ineffective. Advocating for *agrowth* in a growth society is like advocating for a-theism in Medieval times, it promises to be quite difficult. A-theism is easier to embrace today only because religion has become less dominant, and so it will be difficult, if not impossible, to be "growth-neutral" (van den Bergh, 2017: 110) as long as growthism will remain hegemonic.

Sekulova et al. (2017: 176), Antal (2014: 283), and D'Alisa et al. (2013: 222) all make this point explicit in their criticism of the agrowth approach.[1] "It is not enough to say 'farewell,' 'stop,' or 'objection' to growth, one must advance towards degrowth" (Lepesant, 2018: 224, mt). The GDP motive will not go away by ignoring it like one would do for a monster hiding under the bed. This is my answer to Neumayer (2013: 98): If "concentrat[ing] on environmental problems directly" was enough, those would have likely been solved after more than 30 years of sustainable development. The stalling of environmental politics is an evidence that there is another variable to consider in the matter, namely the ideology of growth.[2]

As for van den Bergh's (2017: 110, italics added) argument that the "*neutral* and precautionary" agrowth strategy can "bridge pro-growth and anti-growth views and thus reduce polarization in the debate," it seems to run counter to the degrowth approach of clearly distinguishing between the pursuit of the status quo in the various forms it takes (green growth, sustainable development, circular economy, sharing economy) and a more radical revolutionary project. The "neutrality" of the agrowth approach that makes it appealing is also its weakness: it does not commit to anything except a critical stance towards GDP.[3]

As I described in the history chapter, degrowth was born as a missile word whose raison d'être is precisely to create dissensus by being clear about its objective of reducing the scale of the economy. "Degrowth is more analytically consistent […] because the economy will go from big to small" (Kallis, 2018b).[4]

Post-growth

Post-growth (*après-croissance* or *post-croissance* in French) is by far the most popular alternative chosen by academics (e.g. Rist, 2018; Schmid, 2018; Johnsen et al., 2017; Gough, 2017; Rosa et al., 2017; Strunz and Schindler, 2017; Cattaneo and Vansintjan, 2016; Alexander, 2016; Méda, 2016; Gerber, 2015; Demailly et al., 2013) and others (e.g. Post-Growth conference at the European Parliament in 2018, Green House Post Growth Project, Post Growth

low-carbon and high-carbon consumption, it runs the risk of destroying too much welfare for the purpose of sustainability" (van den Bergh, 2018: 62).

[1] "The growth fetish will not go away by ignoring it, but by creating the necessary political, social and economic conditions for managing and living well without growth" (Sekulova et al., 2017: 176); "we cannot ignore growth – or if we do, it will not change real world strategies too much – because changes of GDP are tightly correlated with changes of these indicators. Until such correlations are substantially weakened, we will have multiple reasons to be concerned about growth" (Antal, 2014: 283).

[2] As for Neumayer's (2013: 98) "environmental pollution is the enemy, not economic growth," I leave it to the judgment of the reader to decide of the validity of such claim after reading Chapter 2.

[3] In their report on behalf of the German Federal Agendy, Petschow et al. (2018) make the same claim about "post-growth" (although this should not be considered representative of the German Postwachstum discussions where post-growth and degrowth are considered as synonyms). "There are two particularly prominent and clearly antagonistic positions within the discourse whose political consequences are fully contradictory: green growth and degrowth. […] We therefore propose a third position and put it up for discussion with this paper: *precautionary post-growth*. […] This approach has the potential to create a new consensus in the sustainability debate" (Petschow et al., 2018: 5).

[4] One could add Abraham (2011) who writes that "degrowth" is "easier to pronounce than 'a-growth,' which is possibly more appropriate on the semantic level." This is seconded by Schneider (2019b) who thinks "a-growth" is a confusing word and Romano (2019: 34) who writes that it "would not sound very catchy as a slogan."

Institute, Postgrowth Economics Network, the 2018 German Federal Environment Agency report on "precautionary post-growth"), often to refer to ideas close to degrowth. It has become quite common, especially since the Post-growth conference at the European Parliament (September 2018), to use both terms together (degrowth *and* post-growth).[1]

> "This is what we quality as a 'post-growth' society. This does not mean being indifferent to growth but elaborating a collective proposal for a future in which the economy and society would no longer be dependent on the need for a sustained increase of GDP" (Demailly et al., 2013: 23);
>
> " *post-growth* (a society whose main goal is not anymore the increase of GDP but the satisfaction of human needs in consideration with social and environmental norms…)" (Méda, 2016: 205, mt);
>
> "By postgrowth, we refer to two interlinked ideas: the concept of a steady-state economy […] and the discourse around degrowth" (Büchs and Koch, 2017: 2);
>
> "We prefer the term 'post-growth' […] to 'degrowth' […] This is not only because the prefix 'post-' indicates the aim of going *beyond* the current paradigm, but also for two substantial reasons. (first) committed to a more reformist perspective. (and second) the downsizing of the economy may be the inevitable *result* of adequate sustainability policies, it is 'at best blunt, ineffective and inefficient' as a sustainability policy by itself […]" (Strunz and Schindler, 2017: 6, italics in original).

The term has a double advantage for that it implies the idea of moving forward that is cherished so dearly in modern society[2] (to the contrary of *degrowth* implying a backward or downward movement) while keeping a focus on what is to be escaped, namely growth.[3] This makes *post-growth* "more rhetorically palatable" compared to *degrowth* (Miller Mcdonald, 2019). Rosa et al. (2017: 65) explain they prefer *post-growth* over *degrowth* because the later can easily be misunderstood as cultural stagnation.[4] This is perhaps why even though J. Hickel uses "degrowth" in his writing (e.g. Hickel, 2019b), he only used "post-growth" in his televised Doha Debate on capitalism (Hickel, 2019f). Latouche (2019b, mt) himself thinks that " 'post-growth' is fine," even if he warms that this should not open to door to considering another progress, another development, or another growth (Latouche, 2019c).

A weakness of *postgrowth* is that it its message is ambiguous: "Degrowth tells us clearly that we need less. […] Post-growth or after-growth is only talking of a new phase that would come after growth as we define it today" (Schneider, 2019b: 14, mt). Another downside is that *postgrowth* sounds far into the future, like the job of escaping growth has already been done, which makes it problematic as a name for a transition. Additionally, one could argue that this

[1] In my judgment, talking of "degrowth and post-growth" is more confusing than anything else. This bundles concepts together as to avoid making a choice about what they mean and how they differ. Plain for all to see that such strategy quickly becomes unpractical: degrowth and postgrowth; degrowth, postgrowth, and agrowth; degrowth, postgrowth, agrowth, and meta-growth, and so on. If people think *degrowth* is confusing, I wonder what they think of "economic (de)/(a-)growth," a clumsy conceptual juggle proposed by Schmid (2018: 297).

[2] Hence the popularity of the term "beyond" (e.g. *beyond GDP* for the European Commission. This was also the choice made by Daly in his *Beyond Growth: The Economics of Sustainable Development*, 1996) and "post" (e.g. "post-carbon economy" in Magnuson, 2013; "post-capitalism" in Mason, 2015).

[3] "The phrase 'post-growth economics' may be a suitable middle-ground, in so far as it is explicitly against growth – and thus has some oppositional content – while at the same time implying that it is 'after' or 'beyond' growth, suggesting progress rather than social decline" (Alexander, 2015: 47).

[4] "Looking for the contours of a post-growth society, therefore, is not to deny the possibility or desirability of dynamic developments whenever there is a social need (or desire) for it. That is why we speak of *post-growth* rather than *degrowth* society" (Rosa et al., 2017: 65, italics in original).

semantic strategy did not work that well for "post-development," which has remained marginalised ever since its emergence (one can only wonder if *de-development* would had done better).

A way to end with the shadow of a consensus would be to say that the word "degrowth" will maybe one day disappear to be replaced with another term. Perhaps the idea of degrowth will be "re-packaged to attract wider interest" in different contexts (Chiengkul, 2018: 9). This corresponds to how I have defined degrowth, namely as a discourse that is only appropriate in circumstances where the ideology of growth is dominant, and that should therefore be abandoned once this ceases to be the case. And maybe the fact that more and more scholars do substitute postgrowth to degrowth is an evidence that "degrowth has out-grown its own name" (Raworth, 2015). In the statements below, notice how Paul Ariès, one of the leading degrowth scholar in France, has changed his view from 2009 (it is too early to give up *degrowth* as a missile word) to 2019 (it is time to start using more positive terms).

> "The day when we will be able to voice our dreams with other, more solid words, we will then be able to give up the contradiction between growth and degrowth. Yet, renouncing to this missile word today would fragilise a nascent movement" (Ariès, 2009: 39, mt);
>
> [One decade later, the same author writes] "Time has come to transition from *mots obus* (missile words) – degrowth, anticapitalism, antiproductivism – to what I call *mots chantiers* (construction words). Slowing down against acceleration, relocalisation against globalisation, cooperation against competition, gratuity against commodification" (Ariès, 2019b, mt);
>
> "Degrowth is not the end of history, the debate will evolve – the word 'degrowth' will maybe disappear once it has completed its role of rearming critical thinking" (Bayon et al., 2010: 18, mt);
>
> "Perhaps it would be fruitful to consider these two approaches as successive phases: deliberate degrowth thinking might be needed at first in order to reach – as a society – the agrowth attitude" (Haapanen and Tapio, 2016: 3501);
>
> "In the end, it is not about the word, it is about sparking socio-ecological change toward a fairer, smaller, and simpler economy. Degrowth explicitly or by other names" (Bliss, 2016);
>
> [Degrowth is a] "silent transformation. As soon as its ideas become culturally prevalent, the word itself becomes obsolete, useless" (Liegey interviewed in Goor, 2018: 73, mt);
>
> "it is not necessary to pursue a degrowth vision in the name of degrowth" (Kallis, 2018: 160).

Or perhaps, the term degrowth is here to stay after some "fall in Degrowth like some people fall in love" (Projet de décroissance, 2015, mt) or after degrowth is made "irresistible" by the power of imagination and fantasy (Jordan, 2016). Among aficionados, the word is often used as an adjective (degrowth society, degrowth policy, degrowth economy, or even in common sentences, such as *flying and eating meat is not very degrowth*),[1] showing that it has been imbued with a positive connotation. Kostakis et al. (2016: 9), for example, write affectionately about "the spirit of degrowth"; Johanisova et al. (2013) is full of praise for a "degrowth world";

[1] Here is an example: "Degrowth is everywhere all the time, it always has been. We all care for each other without trading. Everytime I lend my neighbour something or organize a community barbecue – that's Degrowth thinking right there" (Minkjan, 2019). In the same spirit, Barca et al. (2019: 8) write about "degrowth-compatible practices."

and Grosbois (2019) tells the joyous story of how she came to embrace a "degrowth way of life." Degrowth would then just be an ugly word for a beautiful idea.[1]

> "Those of us involved in the degrowth community have developed, through repetitive use and embodied experiences (readings, conferences, conversations and means with friends), an impassioned connection to the word, which we invariably perceive as positive. We are humans like everybody else; we do not have different brain circuitry or strange upbringing. It is not inconceivable to imagine a process of social acculturation and embodied experiences connected to the label of degrowth through which a greater of the population may come to think the same way as we do" (Kallis, 2018: 160).

For analytical reason, my personal choice in the thesis is to use *post-growth* to refer to the state of independence from growthism while I keep *degrowth* to describe the act of emancipation (i.e. the transition). What is left to disagree on is the threshold after which one will be able to say that the growth society has actually left its addition to growth behind.

As the reader will be now have guessed,[2] I find the word "degrowth" useful to refer to that transitional, oppositional period in the way to a post-growth society (or society without growth).[3] I also refer to the academic field and social movement as "degrowth," agreeing with Dengler and Seebacher (2018) that inventing new names could risk unnecessarily fragmenting the movement.

Unhappy? The well-being critique

Degrowthers are often depicted as "spartan" (Ajl, 2018) or "monastically ascetic" (Di Méo, 2006: 111, mt), and degrowth as a "too-austere utopia" (Ajl, 2018) or an "urge [for] everybody to live less well" (Tucker, 2019: 4min01). "Is degrowth a commitment to a lower quality of life? Will degrowth hurt?" asks a journalist interviewing economist François Delorme (2020, mt) on *Radio Canada*. "[H]ow painful would it be to get there?" wonders Park (2015), reflecting on a future without economic growth. Behind this reticence lies a crucial question about degrowth and well-being.

In theory, its advocates argue, degrowth means *more* well-being.[4] "Increasing human well-being" is one of the objective explicitly stated in the definition[5] of degrowth from the Paris conference (2008) and "meaning of life and well-being" is one of the original five degrowth

[1] Drews and Reese (2018: 9) acknowledge this possibility: "Although it seems unlikely, it is possible that what is now perceived negatively can be turned into something more positive through cultural processes."
[2] I used the word "degrowth" 458 times in Part II only.
[3] Latouche (2018: 3) himself puts these concepts side by side: "a society of *frugal abundance*, a *post-growth* society (in the words of our German colleage Niko Paech), or a society of *prosperity without growth* (in the words of our English colleage Tim Jackson)." This is also the case for Ariès (2018b, mt): "I have no fetishism for the word: one could call oneself an adept of degrowth, of the objection to growth, of happy sobriety, of the post-growth society." Same stance for Arnsperger (2010, mt) who writes that the term *degrowth* "should be banned from the public debate. It has served its function as shocking expression and as a slogan for a while but now it is counter-productive. Let us stop talking about degrowth. Instead, let us talk about 'prosperity without growth' (Tim Jackson), 'economy of happy sobriety' (Patrick Viveret), or 'a principle of plenitude' (Juliet Schor)."
[4] "In a degrowth society, diminished throughput is not supposed to come with joyless renunciation and a decrease of our quality of life. In contrast, the essence of what this quality of life might lie in needs to be collectively re-evaluated with an emphasis on 'conviviality' (Illich, 1973), on 'being' rather than 'having' (Fromm, 1976) and a radical scrutiny of whether what we now think of as indispendable actually contributes to our well-being" (Dengler and Seebacher, 2019: 248).
[5] "an equitable downscaling of production and consumption that *increases human well-being* and enhances ecological conditions at the local and global level, in the short and long-term [and which is] offered as a social choice, not imposed as an external imperative for environmental or other reasons" (Schneider et al., 2010: 512-13, italics added).

sources according to Flipo (2017). One of the Italian degrowth movement is called the Movement for *Happy* Degrowth and the the French periodical *La décroissance* bears the subtitle "*le journal de la joie de vivre*" (the journal of the love of life). One representative example of such stance is Hickel (2017d: 304) when he writes about rich countries organising a planned shrinkage of their material economies, "with the goal of maintaining and even improving their quality of life."

This claim leaves certain commentators unsatisfied (see quotations below). If the consumption of commodities has become a key determinant of quality of life, and if degrowth means less of them, then degrowth as a pursuit of happiness, they say, faces a paradox.

> "Further economic growth is, in principle, not necessary to maintain the quality of life in a society. However, degrowth representatives do not explain convincingly whether and in particular how this quality of life can be maintained if GDP per capita (very) sharply declines." / "it is uncertain whether the quality of life in society can be maintained by implementing degrowth measures" (Petschow et al., 2018: 8 / 18);
>
> "ecologists never seriously consider the social consequences of their proposals. I think it is very difficult, if not impossible, to ask people constantly to be satisfied with less: less income, less consumption, fewer city-trips, fewer cars…" (Mestrum, 2018);
>
> "Degrowth won't happen in '*joie de vivre*' but will be imposed by reality in pain. A future without oil and without nuclear energy is a society with at least 80% of the population ploughing the field, without chemical fertilisers and pesticides, and going back to uncultivated lands" (Annaba, 2014: 26, mt);
>
> "Degrowth, a condition we may one day or another be constrained to, is nothing of a joyful development and cannot be an ideal in itself" (Perret, 2015: 15, mt);
>
> "by calling for curbed advertising, Hickel makes clear his belief that individuals only deserve the basics. […] The simple point is that Hickel's world would deny the individual pursuit of happiness" (Rogan, 2017);
>
> "They [proponents of degrowth] should explicitly promise continuous annual income declines of several percentage points, lower wages, pensions and social transfers, a work week of 20 hours or fewer, closure of most gas stations and many airports, home production of key food items, picketing of factories that work longer hours or supermarkes that sell meat. They should put this program on their flag and see how many people will vote for it" (Milanovic, 2017b);
>
> "It's possible, of course, that we'd all be perfectly happy without the material comforts of modern capitalism. But having known these comforts as we do, and even as our awareness of their contribution to the climate crisis deepens, will we ever want to let them go?" (Timms, 2020).

Before broaching this question (or rather the series of questions that it brings in its train), I should say something about terminology, especially the distinction between *happiness* and *well-being*. Happiness is an affective state; it is how we feel at a specific moment in time. It can be measured by asking people how happy they feel, for example on a scale from one to ten (this is often called *subjective well-being* in the literature). Well-being, on the other hand, is a multidimensional understanding of contentment which is stable over longer-periods. It has to do with a broader *quality of life* and need satisfaction, as well as other complex factors having to do with aspirations and challenges to achieve them. It can be measured by asking people how satisfied they are with their life in general. A homeless person may be happy to find a five-euro

bill on the floor, but that does little to increase their well-being in terms of healthcare, security, and other fundamental needs.

With this division in mind, let us look at the first charge. If material possessions, money, plane travels, among other delights of the consumer society are collectively set as satisfiers of needs, then a reduction of their consumption will involve a decrease in happiness. Or worse, one could also, like Büchs and Koch (2019), worry that consumers may be "locked" into growth and rising well-being expectations.

Sekulova et al. (2017) retort that, hypothetically, this loss of subjective well-being will be smaller than the gains associated with it – same optimistic statement for Schneider et al. (2010: 512).[1] "[W]ith more free time people would be able to have fun, enjoy conviviality with loved ones, cooperate with neighbors, care for friends and relatives, cook healthy food, exercise and enjoy nature" (Hickel, 2019b: 66). "[G]ardening, making things, sharing surpluses, joining in working bees and community celebration and festivals, can be rich sources of life satisfaction" (Trainer, 2018: 9). And indeed, as we have seen in Chapter 4, reducing an excessive level of consumption may well improve life satisfaction. Ultimatly, people's preferences will adapt to the new situation, leaving levels of happiness unchanged (Sekulova, 2015: 114).[2]

This is the frugality of degrowth, being "content with little" (DW, 2019) or rather even "live better with less" (Decod'Actu, 2016). Empirically, Brown and Kasser (2005), Boujbel and d'Astous (2012), and Rich et al. (2016) find that downshifters are happier than average Americans while Kennedy et al. (2013) point to nonsignificant impacts on quality of life in the context of one Canadian city. Studying the Dancing Rabbit ecovillage in Missouri, Lockyer (2017) shows that inhabitants report higher levels of subjective well-being while consuming only 5-10% as much as the average American. "[S]aying enough need not be a matter of sacrifice or do-gooderism. Saying enough, indeed, *practising* enough […] is not just a means of surviving. It is a means of thriving" (Princen, 2005: 5, italics in original).[3] For Mongeau (2007: 10) and Alexander (2015: 91), voluntary simplicity constitutes the first step of degrowth, the cultural precondition necessary for its emergence.[4] (This was also Clémentin and Cheynet's (2002b: 62, mt) closing claim in their foundational article: "To initiate sustainable degrowth, the priority is for individuals to engage in voluntary simplicity.") Yet, downshifting may remain limited if only approached as an individual practice.

[1] "But just because we would be sacrificing some of our consumerism doesn't mean degrowth would lead to a lesser quality of life. In fact, proponents argue the opposite, envisioning happier lives where we would derive more satisfaction from healthier time-tested pursuits like art, music, walks outside and time with friends and family than from sitting inside by a screen plotting amazon.com purchase" (Scheer and Moss, 2019).

[2] The academia, from my limited experience in Sweden, France, and Catalonia, offers a good example of a community that holds different criteria than consumption to attribute prestige. As an academic, owning a Ferrari, a private jet, or earning a five-digit monthly salary will earn me little prestige compared to having published in prestigious journals, received research prizes, or commanded praises from students for my teaching. Because of its peculiar logic of social comparison, a reduction of income and associated consumptions will not necessarily bring a reduction of subjective well-being for scholars, especially because those are often wealthy people. (Naturally, academics are also human being, who go out and consume to fulfil both their needs and wants, just as anybody else in a consumerist society. My example here only shows that ultimately, the criteria on which the attribution of prestige relies are always social constructions.)

[3] Recall the notion of sufficiency from Chapter 6: this frugality only applies to people who can satisfy their needs in alternative ways than through the GDP economy and is not an appeal to austerity and sacrifice.

[4] "I cannot conceive speaking about degrowth without first embracing the principles of voluntary simplicity in one's life. The relation between these two concepts is therefore one of complementarity and not competition" (Mongeau, 2007: 10, mt).

One should not, however, confuse simple living, which is an individual process, and degrowth, which is its political articulation (contra Correia, 2012; Fitz, 2013; Antithesi, 2017).[1] Indeed, an argument often heard in degrowth literature – e.g. Latouche (2006: 101-106) – is that voluntary simplicity is necessary but not sufficient. As we have seen in Chapter 4, consumption is social and so a degrowth perspective requires a change in "reference consumption standards" (Sekulova et al., 2017: 173). Instead of looking up to the members of a community that consume the most, the reference norms should shift towards the more frugal levels of a simple lifestyle. This shift of aspirations cannot be expected to occur on its own in an environment saturated with advertisements, cheap personal consumption loans, and a physical infrastructure that makes consumption necessary (the car being an icon of these three trends). The task of other degrowth actors (state, firms, community) is then to shape a social environment that facilitates voluntary choices of frugality.

This argument does not satisfy the critical scrutiny of Büchs and Koch (2019: 3) who argue that, based on loss aversion theory (Tversky and Kahneman, 1991), adaptation to loss is more difficult than adaptation to gain – e.g. lottery winners may end up getting used to their wealth, with happiness returning to previous levels, but those paralysed after an accident may remain in a new, lower level of satisfaction (Brickman et al., 1978). For lovers of commodities, degrowth is closer to an accident than it is to winning the lottery.

De Nevel et al. (2017) find that people are more than five times as sensitive to income contraction than they are to income increase, thereby confirming the loss aversion hypothesis in prospect theory. Studying the relationship between carbon-intensive consumption and happiness in 120 countries over the 2005-2015 period, Fanning and O'Neill (2019) find that a 1-point drop in GDP decreases happiness by 0.03%, which they find significant.

Another concern is that a downshift in consumption might perturb well-established systems of meaning (e.g. I often fly around the world and therefore I am an adventurer, tolerant, cosmopolitan, and if I do not, I am a languid, intolerant, xenophobe). I agree it is not enough to appeal to a society-wide, cultural shift in values that would erect sufficiency as commendable for all at once (e.g. I do not fly *because* I am an adventurer of slow travel, tolerant towards other lifestyles that shall not be constrained by mine, and so on). The problem is that such cultural change takes time and one may again wonder what would replace the symbolic communication achieved by products with a fast-paced reduction on consumption possibilities.

And this is the crux of the critique: degrowth is bound to stay marginal because what it entails will make people unhappy. Milanovic (2017) calls degrowth socially unfeasible because it represents an 80% income cut for the global top decile, a loss that, he argues, they are unlikely to let happen. Equally sceptical, Teixeira (2019) finds it "highly implausible that these population [he is referring to those who newly joined the global middle class] want less growth when they've already benefitted so much from the growth they have seen." As long as "buying an iPad will still be way cooler than riding a donkey" (Jordan, 2016), degrowth will remain a hard sell.

[1] "It is not unusual for the degrowth movement to be rejected because it is based in the liberal ideology of personal life style changes" (Fitz, 2013); "In addition, it is clear that Castoriadis' concept of the 'imaginary' is used by Latouche in way that facilitates the transfer of the responsibility for the devaluation and the plunder of nature to the individual who is urged to change his/her consumption habits and lifestyle" (Antithesi, 2017).

While on one level, this point seems simply an empirical assertion (GDP down, happiness down), notice what is hidden behind it. Arguing that recessions make people unhappy, one mistakes a constributing factor for the cause. Yes, you are more likely to have a car accident if you drive when it rains, but that is not because of the rain per se, but rather because of the fact you drive when it rains. What if a decrease in GDP was associated with job creation (think work sharing), redistribution of wealth (think profit tax), ecological regeneration (think unpolluted rivers, starry sky, and silence), and better welfare services (think democratisation of non-commercial basic services)? Ultimately, the prospect of an "unhappy recession" is a red herring, since the reduction of economic activities that degrowth calls for would be devoid of the ills currently linked with dropping GDP (unemployment, austerity, geopolitical pressures etc.). But this is easier said than done.

These concerns are legitimate and one cannot expect consumers to stop consuming if consumption remains the only way to satisfy their needs.[1] "[O]bsessive consumption cannot be stopped cold, and transitional help may be required. Conversion is most likely to be achieved when consumerism is replaced with other sources of satisfaction and meaning" (Etzioni, 2004: 414). As Paech (2016: 11, mt) argues, in order to be happy with less, it is fundamental to provides time and space for experimenting and learning how to thrive outside of materialist consumption. This is why "re-evaluate" is the first "R" of Latouche's (2006) virtuous circle of degrowth: the change of values must precede the one of practices, hence the importance of the *decolonisation of the imaginary*. But again: easier said than done.

But perhaps one could offer a more radical answer to the well-being critique, namely that the notion of happiness itself should be discarded. The argument goes as follows. If consumption is an addiction like any other, one should expect people who have been long accustomed to certain "standards of living"[2] (read: over-consumption) to experience withdrawal symptoms in the first phase of a downshift. One could, however, argue that this is for the best. Individually, getting your kick on products sold on a market makes you vulnerable (e.g. of price increase, wage decrease, underproduction). Collectively, because the consumption of a small group of people (the rich) creates negative "externalities" for the whole, either by setting an unachievable standard of success or by directly degrading nature and communities.

Consuming less benefits consumers in the long term, even though they might feel unhappy about it at first. Society is also better off for it is not usually considered desirable to have addicts around.

From a degrowth perspective, the unhappy over-consumer is not a step in the wrong direction, but rather as the first stage of recovery – a sort of consumerist rehab. This is why talking about "happy degrowth" is a bit incongruous and one should rather think about a *serene* degrowth (Lepesant, 2018). We, addicts of a consumerist society, find ourselves in the same situation than Ulysses and the mermaids: we know we will not be able to trust our immediate desire in the beginning of the transition because we will be under the spell of the mermaids of

[1] This may be especially true for households who are already vulnerable: "the tremendous potential that degrowth has to negatively affect marginalized people whose precarious lifeways imply minimal ability to handle shocks and disruption" (Perkins, 2019: 185).

[2] The entry Latouche wrote in *The Development Dictionnary* (1992) is particular fitting here: e.g. " 'Standard of living' encapsulates all the dimensions of the dominant paradigm of the West, of modernity and of development. This paradigm constitutes a perfectly auto-referential sphere containing only a very limited number of elements. Need, scarcity, work, production, income and consumption are the key concepts within an enclosed semantic field that has no need of the outside world" (Latouche, 1992: 284).

consumerism, and so we must set objective criteria (e.g. quotas of consumption in accordance with ecological sustainability) and accept a momentary reduction in liberty, in the same way that Ulysses asked his boat crew to tie him to the mat while the boat was set to sail in a specific direction.[1]

The issue with focusing on happiness is that it is individual and utilitarian. In his *Towards a Society of Degrowth*, Romano (2019: ch.2) criticises the current degrowth literature for holding to the modern goal of maximising well-being. "The ultimate goal still remains the quest for immanent well-being: the fact that it can be obtained by increasing the resources produced, decreasing them or, even, stopping to deal with them, is a detail that certainly does not challenge the model of society" (ibid. 39). What troubles Romano is the utilitarian logic of personal preferences, which has degenerated under capitalism as a war-of-all-against-all individualism.[2] "[S]elf-reported happiness bears the risk of merely mirroring coping strategies, modes of subjectivation, and cultural influences that might very well mask relations of domination, forms of discrimination and injustice" (Petridis et al., 2015: 192).

This is why the objective should not be (personal, short-term) happiness but (social, long-term) well-being. Sometime, wants matter less than needs. I thus side with Koch et al. (2017) when they argue that subjective well-being (what I have called *happiness* so far) is a misleading indicator for a degrowth transition.[3] I also wholeheartedly follow Latouche (2019a: 95, mt) when he proposes to "redefine well-being as frugal abundance in a solidary society."

Crowded? The denatalist critique

Degrowth, they say, is not enough because it ignores the role that demography plays in environmental degradation. Calling themselves "eco-Malthusians,"[4] certain thinkers posit that ecological sustainability requires an organised de-natality, de-population, or de-peopling (e.g. Tarrier, 2008; Sourrouille, 2014a). For them, an emphasis on consumption is necessary but not sufficient; "voluntary simplicity is ineffective without the use of contraceptives" (de Giraud, 2014: 56, mt). This perspective is supported by several think-tanks around the world: *Démographie Responsable* in France since 2009, *Écopop* in Switzerland since 1971,

[1] Is such a self-limitation, even if only temporary, in contradiction with the principle of autonomy? Not necessarily. Autonomy is about *self-institution*, which includes the setting of limits one decides to abide to. If the reduction of consumption is an informed choice, then autonomy is preserved. Imagine someone deciding to eat less sugary and fatty foods striving for the higher, longer term objective of health. (As long as "health" is not interpreted as the thin bodies of billboards models that is unconsciously imposed onto individuals, which would then be considered a source of heteronomy).

[2] "at the basis of the dominant degrowth vision one still finds the pursuit of well-being by everyone, the increase of the changes to do and be what everyone wants. […] degrowth reinforces the primacy of the individual and his [sic] well-being proper of modernity […] which, paradoxically, is precisely the one that prevents the deployment of collective sovereignty" (ibid. 40).

[3] "we should deprioritize 'happiness' in degrowth research with a plea to simultaneously prioritize the satisfaction of human needs for all human beings now and in the future. […] we suggest going back to the original Paris declaration which identified the meeting of basic needs as main objective of 'degrowth' and endorse a downscaling of production and consumption even if subjective well-being scores (temporarily) decrease in the rich countries" (Koch et al., 2017).

[4] In terms of terminology, let us differenciate between *Malthusian* (the followers of Robert Malthus's ideas), *neo-Malthusians* (19th century British and French anarchist movements fighting, contra Malthus, for the re-appropriation of their reproductive rights), and *eco-Malthusians* (a 21st century movement advocating a reduction of population via non-coercive measures for the sake of social-ecological justice).

Population Matters (previously the *Optimum Population Trust*) in the UK since 1991, and the more radical *Carrying Capacity Network*[1] in the US since 2001.[2]

With a few exceptions,[3] it is true that degrowthers scarcely write about demography.[4] Some advance the minimal claim that "managing without growth implies a stable population" (Victor, 2019: 317) while others go further and weave world population optima into their arguments – e.g. 1 billion for Cochet (2014: 13), 3 billion for Latouche (2006: 144), 5 billion for Martinez-Alier (2009: 1115), and 8 billion for Schneider et al. (2010: 514). Otherwise, a consensus reigns and the topic is often dismissed as irrelevant, distracting, or indecent: the "scapegoat of overpopulation" (Alexander, 2011: 59), the "false fear of the population bomb" (Ariès, 2009: 172, mt), the "favourite solution of the rich" (Latouche, 2006: ch.5, mt), a "huge smokescreen to cover up massive inequalities" (Paulsson, 2017: 218), a "mistaken target" (Abraham, 2019b: 273, mt), or the "lazy solution" (Latouche, 2007: 46, mt). In the end, the issue of demography is left untouched, hence the critique of eco-Malthusians.[5]

In what follows, I discuss the issue of degrowth and population in nine points: (1) the timing of demographic transitions, (2) the respective impact of affluence and population on environmental pressures, (3) the factors that lead to lower rates of fertility, (4) the ethics of reproduction, (5) social acceptance, (6) effectiveness, (7) State incentives, (8) policies, and (9) migrations.

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[1] With a focus on "achieving national revitalization, population stabilization, immigration reduction, economic sustainability, and resource conservation" (CCN, 2018); "Most of American's main problem – from traffic, to classroom crowding, to pollution, depletion, welfare dependency, increasing taxes, and cultural fragmentation, have deep roots in our unsustainable population growth. […] CCN simply wants to conserve the best of America – before it's developed, overrun, consumed, and polluted by runaway population growth" (CCN, 2018).

[2] This controversy excludes the specific form of eco-Malthusianism that comes to advocate genocidal solutions to environmental problems. Examples include the Church of Euthanasia (created in the US in 1992), an anti-human religion that advocates a massive voluntary population reduction in order to restore harmony within life on Earth. Likewise, the Voluntary Human Extinction Movement (created in 1991 in the US) invites people to voluntarily stop to reproduce. To those can be added all forms of eliminationist agendas, often associated with eco-fascist movements like the white nationalist separatist *Pine Tree Gang* from the Cascadian Region in Northern America.

[3] The French Christian degrowth movement, gathered around the journal *Limite*, often writes about population (see n°1 "*Décroissez et multipliez-vous*," September 2015); a special edition of the *Cahiers de l'institut d'études économiques et sociales pour la décroissance soutenable* titling "degrowth against Malthus" (n°3, Jully 2009); in May 2017, the *Mouvement des Objecteurs de Croissance* (MOC) and the group *Décroissance Ile de France* co-signed a call written by *Démographie Responsable*. Titled "Overpopulation? can we encourage population growth any longer?" the text follows eco-Malthusians lines of argument and advocates for contraceptives, family planning, and education of girls, while criticising the financial support of the French goverment to family with more than two children (Démographie Responsable, 2017, mt). One of the controversy in Latouche (2011a) is about population and the author also dedicate a chapter to the topic in *Le Pari de la Décroissance* (2006: ch.5).

[4] This has been noted by a number of authors: "The treatment of the population problem by de-growth authors is either missing, patchy or incoherent" (Kerschner, 2010: 546); "Here, it is argued that compassionate and non-coercive proposals to stabilise population should be explored more actively by proponents of degrowth" (Cosme et al., 2017); "Degrowth currently pays too little attention to population growth, and this is especially the case if population grows arises from net immigration, as is the case in Western Europe and the US" (Daly cited in Kallis, 2017: 145); "the degrowth movement has rarely discussed population growth" (Martinez-Alier, 2015: 125); "the most recent "Degrowth" conference in Leipzig had little discussion of population as a key driver of environmental degradation" (Kopnina and Washington, 2016: 2); "I am personally, and I would say the degrowth debate, in general, has not been obsessed by the issue of population. We are open to discuss about it, but for the moment, I don't think, for the moment, it's an issue of population. […] We should stop at least subsidising population growth, which is again what governments are doing" (Demaria, 2016); "degrowth scholars have not adequately addressed the population issue" (Bliss, 2018).

[5] Vignal (2014: 166, mt) speaks of "demographical *laissez-faire*." "[T]o refuse to take it [population] into account because it is not the most important variable is, in fact, just another tactic to evade the debate" (Anada, 2014: 23, mt). Barthès (2014: 32, mt) goes as far as comparing the uncomprimising stance of degrowth over demography to President Bush's declaration about an American way of life that was not open for negotiation.

Population stabilisation: When and at what level?

The first way degrowthers try to defuse the fear of a population bomb is by appealing to the theory of the demographic transition. The argument goes as follows. While it was warranted to worry about the exponential character of population growth in the 1970s,[1] doing so today would be fallacious. Indeed, fertility rates have increased up to 2.1% in 1968 when they peaked to ever decrease after that (Roser, 2017). This is the "peak child" of Rosling (2012) or what Robbins and Smith (2016) call the "global baby bust" or the fact that the fast population growth of the last century is coming to an end and returning to pre-industrial rates.

Denatalists, however, riposte by saying that this only concerns the *flow* of population and not its *stock* (the 7.4 billion people alive today). Even though fertility rates have been decreasing, the absolute number of people on Earth is still increasing (e.g. there were in the 1960s, 70 millions extra people per year whereas today this number is around 80 millions).

It is at this point that degrowthers usually brandish United Nations estimates predicting that global population will soon stabilise. For example, in a recent interview for *Le Monde*, Latouche (2018c, mt) dismisses the issue of population: "since an infinite population growth is incompatible with planetary limits, the demographic question is, I think, going to solve itself naturally. It is therefore pointless to engage in restrictive population policies."

But objectors to population growth would ask: stabilisation yes, but when and at which level? Indeed, degrowthers lack arguments to justify why this natural end point of population growth should constitute a long term, desirable and sustainable optimum. Here the disagreement lies on whether the biosphere could support 9, 10, or 11 billion simple livers and whether it is reasonable to expect simple living to become a universal standard around the globe.[2] Eco-Malthusians challenge these stabilisation numbers arguing that they cannot be supported ecologically.[3]

Perhaps an agreement can be reached by dividing the population issue into two distinct phases. In the first *stabilisation* phase, there is not much to be done if only to provide the best conditions for fast-growing populations to stabilise as fast as possible. Here the goal is to halt population growth. Once global population peaks, and hopefully in conditions of lesser inequality, the *scale* of the human population should then be discussed democratically at many levels, and the fertility rates decided accordingly.

Production or reproduction?

Degrowthers are more concerned with an "aspiration bomb" (in Ellwood, 2014: 175), the problem being not too many people but too many SUVs, smartphones, and faraway holidays. For them, even though rising global population does have consequences that must carefully be considered, when it comes to its environmental impact, lifestyle is the determining factor, and

[1] A perfect example is Ehrlich (1968 cited in Gómez-Baggethun and Naredo, 2015): "if population growth would continue [at the prevailing rate] for the next 900 years, there would be some 120 people per km^2 throughout the entire planetary surface, including seas and oceans."

[2] Others in the like of Servigne (2014: 123-28, mt) reject the United Nations "myth of stabilisation" altogether. Arguing that its predictive model does not account for scarce resources and assumes the fertility drop to be irreversible, they rather predict a collapse of gobal population to its pre-industrial level (1 to 2 billion) in the coming decades.

[3] Here is a selection of sustainable global population numbers: 6 billion for Vignal (2014: 173), 4-5 billion for the French think tank *Démographie responsable*, 3 billion for Pimentel et al. (1994) updated to 2 billion several years later (Pimentel et al., 2010), 2.5 billion for Lianos (2013), 2 billion for Daily, Ehrlich, and Ehrlich (1994), 1.5-2 billion for Daily et al. (1994), 1 billion for Tarrier (2014: 161), 800 millions for Cousteau, and 300 millions for de Giraud (2014: 63).

so one must not fear "the growing hordes of the Global South" (Amrith 2006 cited in Moore, 2016: 132) but rather the buying hordes of "hyper-consumers" (Ariès, 2018b, mt). The problem is not the 2.5 billion additional people expected by 2050 (UN, 2013 cited in UNEP 2014), but the 3 billion people who will have gotten access to middle class income levels (Kharas, 2010 cited in UNEP 2014).

According to two different studies (Oxfam, 2015; Chancel and Piketty, 2015), the world richest 10% generate half of total carbon emissions while the poorest half of humanity (the 3,5 billion who show the highest fertility rates) accounts for just a tenth. As the report shows, the average footprint of the richest global centile is as high as 175 times that of the poorest decile. Likewise, 80% of global natural resources are consumed in rich nations that only represent 18% of global population (UNEP, 2010). With such high levels of inequality, it is misleading to talk about population in the singular as one uniform "global population."

It is clear from these numbers that the infamous 10-children African family should not be considered the prime suspect in the case of climate breakdown. This is one of Latouche's (2019a: 84-85) classic argument: if everybody on Earth were to adopt the lifestyle of the average Burkinabe, global population could reach 23 billion – the number being only 1 billion if everybody were to all consume like Americans. As stated by the Liège group of the Belgium degrowth movement: "for as long as a pet or an avatar has a footprint as large as a human, any anti-natalist argument will be indecent" (Liège-mpOC, 2013: 3/6, mt).

So the key question here is the following: Is there really such a thing as "global population"? In 1949 already, demographer Alfred Sauvy answered that the *global* population problem was a false one for that there was no such thing as one *global* population in the singular. Instead, populations were plural: an Italian population, a Burmese population, the population of Versailles etc. The statistical aggregation of a diversity of lifestyles and situations into one specie-based or nation-based category obscures different contexts, inequalities, and power relations. A good example is the reference in population discussion about "African demography" whereas almost half of the African people are concentrated into only five – Nigeria, Ethiopia, Egypt, Democratic Republic of Congo, and South Africa – countries at widely different levels of affluence. A more fitting approach would be to pay attention to demography within consumption classes or socioecological classes – e.g. poor, middle-class, and consumers for Durning (1992), or marginal, sustainers, and overconsumers for Korten (1995).

The point is that behind any "sustainable population" number lies assumptions about material wealth and that, from an ecological sustainability perspective, the production's rates of the wealthy are currently more problematic than the reproduction's rates of the needy.[1] Pope Francis, an otherwise unlikely cast member of the present dissertation, made this point clear in his encyclical letter *Laudato Si'* (2015: 15) in writing that "to blame population growth instead of extreme and selective consumerism on the part of some, is one way of refusing to face the issues." If denatalists agree with such diagnostic, I see little for degrowthers to oppose in de

[1] Even Daly (2018: 93), a long advocate of population control, admits that "surely for the United States, per capita consumption is the crucial factor," even though he quickly adds, "but we are still multiplying it by population, so we cannot forget population." This being said, I think Daly (2018b: 26) goes too far when he says that "the population problem should be considered from the point of view of all populations of the human world – populations of both us humans and our things." Even if they are interdependent, the question of the number of things and the number of human lives should not be bundled into one.

Giraud's (2014, mt) "overpollupopulation," or the notion that a decrease in consumption would be strengthened with a parallel stabilisation (and then decrease) of population.

(Post)development and fertility

The third point advanced by degrowthers is about deprivation. Beyond being an objective in its own right, the eradication of poverty also plays a role in stabilising population.[1] During the 1974 United Nations population conference in Bucharest, Karan Singh, then India's Minister of population, put it in terms that could not be clearer: "development is the best contraceptive." Because fertility rates decrease when people escape destitution and become well informed and empowered, degrowthers say that the 1970s slogan "look after the people and the population will take care of itself" should today be the prime order of business (Ellwood, 2014: 173).

To this point, Barthès (2014: 39) retorts that degrowthers contradict themselves in advocating for the development they themselves denounce.[2] Daly (2018b: 29) goes further and argues that a demographic transition might actually increase total environmental pressures: "if Indian fertility is to fall to the Swedish level, must Indian per capita possession of artifacts (standard of living) rise to the Swedish level? If so, would this not likely increase the total load (ecological footprint) of all dissipative structures on the Indian environment, perhaps beyond capacity to sustain the required throughput?"

To my reading, there is no real disagreement here and a compromise can be reached in saying that the factors that influence procreation are the ones considered desirable, even from a post-development perspective, namely fulfilment of unmet fundamental needs, women's education and autonomy, gender equity in the household, access to contraception, family planning, health care and child care and so on, and that these can be achieved without imposing too large a burden on the environment.

Cradle ethics

Lavignotte (2010: 62-63, mt) makes the case that, as a matter of ethics, humans should never be considered a change parameter: "sacrificing our inner humanity to save humanity at the global scale makes little sense." Often echoed in the degrowth literature, this point is a direct attack against the arguments of certain political groups that use a Malthusian line of thought to push a sectarian or eugenist agenda, or to arguments in the like of Tarrier (2014: 159, mt) who call having a large family an "environmental crime."

In my judgment, this argument is weak. First, simply because only few people discussing population advocate coercive measures – What then about all the other denatalists not proposing "a sacrifice of our inner humanity"? Additionally, I do not see how ideas of conscious procreation – "responsible demography" (Cochet, 2014: 14, mt) or "demographical modesty" (Barthès, 2014: 46, mt) – can be understood as anti-humanist. How is it morally different for an autonomous individual concerned with the climate to decide to either stop flying

[1] The difference is subtle but fundamental: the priority is not to stabilise population in order to eradicate poverty, but rather of eradicating poverty, which among other things, would stabilise population.

[2] "At the global scale, it is the most developed countries that are the most aggressive towards the environment. In promoting development, we are calling for a remedy that we criticise to be poisonous. Is it reasonable? Is it honest, to solve a problem, to rely on a mechanism that we otherwise criticise?" (Barthès, 2014: 39, mt).

or not have a third child? In fact, if one aspires to politicise economic and ecological issues, I see no reason why demography should be given a special, apolitical treatment.

Even though having children is not necessarily "one right *against* all others" (Barthès, 2014, mt, italics added), it is surely one right *among* others. Eco-Malthusians stress that ignoring the population question today merely postpones the ethical dilemma. For example, Servigne and Stevens (2015: 207) asks provocatively whether one prefers to collectively decide how many people should be born today or how many people should die tomorrow. While the question is badly posed, it remains that a refusal to discuss population would indeed run against the ideal of autonomy promoted by degrowth.

Your cars or your kids?

Which of degrowth or denatality is more culturally feasible? Degrowthers argue that procreation is the ultimate taboo and so that it is unrealistic to expect people who are not willing change their diet out of environmental awareness to consciously downsize their family plans.

To that, denatalists could side with de Giraud (2014: 60, mt) and say that "numbers in the here and now prove economic degrowthers wrong because nothing degrows, and especially not global GDP or the one of emerging nations, quite the opposite! On the other hand, numbers in the here and now, support denatalists, because women are instinctively denatalist and prefer quality to quantity as soon as they are allowed that choice."

One can perhaps reconcile the two views in aiming for a social-ecological awareness that would span over consumption, procreation, among other things. Said differently, in the way one advocates for *family* planning, one should do so as well for *commodity* planning; control the number of children one has with contraception and the number of things one owns with moderation.

Leverage point or distraction?

Degrowth dismisses population by assuming that, even if it were an important driver of environmental crises, it would be an ineffective solution to the urgent challenge of climate mitigation. Like a tanker already carrying accumulated speed, population is a slow leverage point because it cannot be reduced before it is stabilised, that is brought to a steady-state. Indeed, even if fertility rates were brought to rate of replacement levels today, population would still grow for several decades because of demographic inertia having to do with the structure of today's population having a large portion of young people. To meet IPCC recommendations with only demographic changes means decreases population by a yearly 2% until 2050, which requires an impossible immediate drop of fertility rates from 2.5 to 1.4 children per woman (Zink, 2019: 3).

Lest there be any misunderstanding. I have never heard a degrowther arguing that population should *not* be stabilised. What they say is that demography should not monopolise the attention especially if it comes to obscure the reduction in overconsumption that is more climate relevant for the decade to come.[1] If the situation is akin to a tanker that is about to crash,

[1] Consider Kallis (2018: 181) when he writes: "From a degrowth perspective, peaking or declining populations in some countries are good, and they should be extended to others. The faster that global population peaks, the better. Fewer people means less pressure for growth, lower resource use and a better average standard of living for a given level of output."

the demographic solution is the equivalent of filling a consumer survey instead of pulling the emergency brake; it is fundamental to prevent more accidents in the long term, but ineffective in the short term.

Here, I guess denatalists would agree, even though they would probably note, like Barthès (2014: 36), that if the population had been addressed in the 1970s, sustainability would be lesser of a problem today, and that it is precisely because demography carries such an inertia that it should be dealt with as soon as possible.

Pronatalism

One point where degrowthers and denatalists may agree on is in their opposition of public effort that purposely supports rising birth rates.[1]

A good example of this pronatalism is the Italian health ministry who in 2016 produced 12 posters in preparation for the country first fertility day encouraging people to reproduce with messages such as "Beauty has no age. But fertility does," "Young parents. The best way to be creative," "Fertility is a common good," or "The constitution protects conscious and responsible procreation."[2] Similarly in Denmark, the travel agency Spies Rejser (2014) made the headlines with an ad campaign promoting pregnancy "to save Denmark's future" while the government of Singapore produced a music clip in 2012 inviting citizens to "making a baby" to "fulfil their civic duty" (National nigh, 2012). In France, denatalists like Vignal (2014) denounce the *allocations familiales* (family allowance) as well as reduced prices of certain services (e.g. *carte famille nombreuse* that grants a discount on public transport for families with three or more children) for incentivising or facilitating large families.

There is nothing shocking about countries being preoccupied about drops in birth rates, but this concern becomes a problem in two circumstances. First, if population is treated as a means to an economic end – as a form of "demographic Keynesianism" (Vignal, 2014: 172, mt). Most natalist policies transpire a logic of productivism applied to population, an economicist consideration of demography treating people's propensity to have children as a means to raise GDP. This is Michel Foucault's "biopower" where the State takes control over the political bodies of its citizens, except it is not directly in the name of geopolitical supremacy (supplying a large army) but rather under economicist motives (fertility is good for economic growth). From this perspective, it should be clear that degrowth opposes such policies in line with its broader criticism of a prosperity defined in economic terms.

Second, when demography is expected to relieve structural issues (for example having to do with a financially unsustainable welfare State). Of course, a sudden rise in fertility rates or an inflow of working-age migrants will, after some point, affect the ratio of working to not-working people, with rising State revenues that can be used to pay for pensions and healthcare. But as any demographer would know, the relief that population can provide to such situation is only temporary as the same problems are only being postponed – often in a compounded manner – to the next generation in a sort of demographic Ponzi scheme.

[1] "Renouncing natalist and pro-demographic growth policies" was one of the 20 proposals of the French degrowth party at the 2017 legislative elections (Décroissance élections, 2017).
[2] Having suffered heavy criticisms, the campaign was cancelled shortly after by Italy's health minister Beatrice Lorenzin.

Solutions for stabilisation and/or reduction

What is then to be done to stabilise and/or reduce population? A surprising aspect of the present controversy is that, although degrowthers and denatalists disagree on the diagnostic, they pretty much agree on the cure, namely "soft measures" (Barthès, 2014: 36, mt) to decrease fertility rates to first stabilise and then potentially reduce population. Degrowthers might do it for autonomy and gender equity while denatalists rather focus on environmental justice, but both would argue on a wide range of policies – even though some others remain controversial.

Both condemn authoritarian, State-imposed, or environmentally pre-determined[1] population control policies.[2] Because they infringe on basic human liberties, methods such as the Chinese one-child policy (1979-2015), the forced sterilisation programmes of Indira Gandhi in India (1976-1977), Alberto Fujimori in Peru (1996-2000), and the ones currently undergoing in Uzbekistan are irrevocably rejected by both parties.[3] One could add to those, cultural coercion in the form of shaming parents like the one envisioned by de Giraud (2014: 62, mt)[4] along the delaying of marriages that infringes on personal autonomy.

In the middle lies a grey zone of policies that denatalists may embrace but that degrowthers would disapprove of. Cash-for-sterilisation schemes like the ones carried in Bangladesh in the 1980s; the $300 offered to drug-addicted women by the North Carolina-based charity *Project Prevention* (in Sandel, 2012: 43-47); the 10,000€ reward for each vasectomy proposed by de Giraud (2014: 62); the tradable birth licences proposed by K. Boulding in 1964 (later echoed by G. Hardin and H. Daly[5]) that has recently been revived with Lianos' (2018) proposal for a world market for human reproduction rights; among other anti-natalist economic nudges – such as a birth taxes (Kennedy, 1995; Bohn and Stuart, 2015), taxing cribs and diapers, making foreign aid conditional on population control, and monetary rewards for children-free family.

Degrowthers oppose these policies because they participate in the economisation that they denunciate (a good example of this economic treatment of population is Harford, 1998). The point here is that financial costs should not be a determining factor in the decision of having children. Another example concerns the gratuity of child care and related services, which Vignal (2014: 170, mt) criticises for making large families financially sustainable. Here, not only is there a risk of anti-natalist arguments being used by neoliberals to dismantle the welfare State, then causing hardship for the poorest (Ariès, 2011), but the issue of gratuity could be argued to be larger than the population problem.

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[1] This would take the form of a green form of John Stuart Mill's "population optimum" (1848), where an expert-led inventory of resources would determine a cap on population.

[2] Kallis (2018: 181, italics in original) is clear on the matter: "A degrowth perspective is anti-colonial and puts democracy and gender equality first. International population control policies that target women in developing countries are ruled out *a priori* from a degrowth perspective, and so are the biopolitics of controlling, and establishing markets out of, people's bodies."

[3] "Authoritarian, state-imposed population control policies, such as the tradable birth quotas suggested by Boulding and Daly (and recalled by Kerschner) are undesirable from a degrowth perspective" (Schneider et al., 2010: 514). Alexander (2016) takes a different view when he writes that "command-and-control policies, such as one or two child policies, should be a last resort, but even such controversial policies would arguably be preferable to a world of 11 billion people."

[4] "Let us imagine a day where a pregnant woman would be ashamed to show herself in public, covered in disapproving looks regarding her absolute lack of ecological civicism" (de Giraud, 2014: 62, mt).

[5] "Issue equally to every person (or perhaps only to every woman) an amount of reproduction licenses that corresponds to replacement fertility. Every woman would receive 2.1 licences. The licenses would be divisible in units of 1/10, which Boulding playfully called the 'deci-child.' " (Daly, 1977: 53).

For full agreement, this leaves non-coercive and humane measures such as the empowerment of women, the provision of free contraceptives[1] and family planning assistance as to avoid unintended pregancies, regulation of children's work, and more education opportunities.[2] When reviewing the demands of the degrowth-leaning Yellow Vests in the French *Grand Débat National* (Chapter 9), I found two population policies that I am surprised never to have seen in the degrowth literature. The first is to promote and facilitate adoption. This would in effect achieve the environmental benefit of stabilising population while providing loving homes for children in need, which is a goal that in itself warrants the policy. The second is more controversial and has to do with the right to assisted suicide. Readers familiar with the life of André Gorz know that this was the choice made by him and his wife Dorine, which they considered a last expression of autonomy (for more, see Gorz, 2009). It is controversial because of the many ways in which such right could be misused, but in theory, it seems to be quite fitting to the autonomous ideal of degrowth. (Connected to this question is a difficult discussion about life expectancy and whether it should always be augmented.)

In that sense, degrowth authors would agree with Engelman's (2012) nine strategies to stabilise population at 8 billion[3] or the (h) step proposed by Ripple et al. (2017: 1028) in their *World Scientists' Warning to Humanity* ("further reducing fertility rates by ensuring that women and men have access to education and voluntary family-planning services, especially when such resources are still lacking"), even though they would probably argue that this should not be considered top priority on the agenda.

Migrations

The old debate over "over-population" has recently turned into one about "over-immigration." The issue attracted some attention after the publication of an article by Herman Daly in 2015 ("Mass migration and border policy," published in *Real-World Economics*). (Already in 2003, Heinberg made a similar point, writing that "from an ecological point of view, immigration [was] almost never desirable"). Yet the two issues should not be confounded into one. Population adds extra people whereas migration just shifts them around, with either desirable or undesirable consequences for ecosystems and societies.[4]

In 2012, the Swiss think-tank *Écopop* proposed adding to the constitution a rule to limit net immigration in Switzerland to a yearly 0.2%, a proposal rejected by three quarters of the voters in a referendum in 2014. On the opposite side, there is no consensus among degrowthers, for few of them discuss the issue. The Barcelona Declaration (2010b) supports "the right to free

[1] Even though there is nothing wrong with having environmental considerations in family planning, the US-based Center for Biological Diversity handing "Endangered Species Condoms" on Earth Day 2014 can be criticised for putting the attention on one variable of the IPAT equation (in my view, the least relevant one) at the expense of the others.

[2] This is one of the thirteen proposal of the Barcelona Declaration: "denouncement of top-down population control measures and support of women's reproductive rights, conscious procreation and the right to free migration while welcoming a decrease in world birth rates" (Degrowth Barcelona, 2010b).

[3] "(1) assure access to contraceptives and family planning; (2) guarantee education through secondary school for all; (3) eradicate gender bias from laws, economic opportunity, health, and culture; (4) offer age-appropriate sexuality education for all; (5) end all policies that reward parents financially based on their number of children; (6) integrate teaching about population, environment, and development into all school curricula; (7) put full pricing on environment costs and impacts; (8) adjust to population aging, rather than trying to delay it through government programs aimed at boosting birth rates; (9) convince leaders to commit to ending population growth through the exercise of human rights and human development" (Engelman, 2012).

[4] For example, Tarrier (2014: 159), writing from an eco-Malthusian perspective, argues that a flow of young migrant in the North might be an opportunity to avoid the advent of ageing societies.

migration" while the French degrowth party is more divided on the matter.[1] Most remarkable is the answer that degrowther Giorgos Kallis offered to Daly's 2015 article.

In responding to Daly (2015), Kallis (2015c; see also 2017: 159) opposed four arguments to the environmental case against immigration. (1) Immigration towards the global North is positive because resources are used much more efficiently there. This one I find unconvincing because relative efficiency in resource use is being trumped by gluttonous living standards (Chapter 2). But let us go a bit further than Kallis here: migrants are however likely to have less children in the new country compared to if they had stayed home in cultural settings that impose large families.

(2) Kallis argues that immigration and remittances contribute to eradicating poverty in the South, which further slows down population growth. Victor (2019: 315-16) references a study by Fullencamp (2015) to argue that the benefits of remittances are unclear. The author goes further: "What about economic growth in the countries from which the immigrants to Canada come? Is that not important too? Is it not more important?" (Victor, 2019: 315).

(3) Kallis points to a lack of evidence showing that countries with large migrant populations damage their environment more. Here, the author is missing the point. What denatalists worry about is not per capita increase in throughput but about national footprint (or regional depending on the environmental issue at hand). In that specific case, immigration and population concerns converge into one: too many people for a limited ecological carrying capacity (I further develop this argument just below).

(4) When immigration happens, it is already too late for that the underlying problem is inequality and capitalist exploitation within a globalised world – this is also Lang's (2017) argument.[2] Even though one may agree with Kallis' diagnostic, this argument might fall short when it comes to designing population and migration policies.

The debate continued and, in September 2018, Harding replied to Kallis, attacking an open border position[3] which he considered was prioritising "social justice to the exclusion of ecojustice." Hardin's first point was that immigration intensifies the demand for the types of products and infrastructure that degrowth aims to reduce (which was also my reaction to Kallis' first claim).[4] Let me here point to a couple of potential responses. One could first say that not all migrations involve a radical shift in lifestyle, especially not the ones between similar countries in terms of living standards (e.g. South-South migrations). Also, immigrants coming from more frugal regions may bring that spirit of frugality with them. Then, for people

[1] "abandon the liberal fables about freedom of circulation that justify economic roaming at the expense of workers being exploited, when what everyone aspires to is first to be able to live in their own countries. And yet, [one must] integrate migrants forced to move because of climate change and our neo-colonial wars for resources" (Décroissance Élections, 2019, mt). Similar stance for Alexander and Gleeson (2018: 193): "national population policies should not be shaped with the goal of maximising economic growth, which could well imply significantly reducing immigration flows. But […] immigration policies should also recognise the moral imperative to accommodate increasing numbers of climate refugees in coming years and decades."

[2] "anti-racist movement and critical migration research cannot be content with setting the claim for open borders against the European border regime. As an offensive strategy against racist prosperity-chauvinism, their critiques should just as much focus on the imperial mode of living, the related North-South relationships and hegemonic perceptions of a good life" (Lang, 2017).

[3] For example, here is the *Canadian Leap Manifesto* (2015): "we should ensure immigration status and full protection for all workers. Recognizing Canada's contributions to military conflicts and climate change – primary drivers of the global refugee crisis – we must welcome refugees and migrant seeking safety and a better life."

[4] The same point was made by Lang (2017) arguing against the biophysical possibility of an open border policy: "what does it mean to claim open borders and global mobility? Does it translate into the right for every human to participate in this mode of living, including those from the global South, if necessary via migeration? This is impossible […]."

migrating as a way to have their fundamental needs met, there is still a moral case to let them have access to whatever they need.

Harding makes a second point: immigration contributes to increase population density, which has disastrous environmental consequences. This point is also reproached to degrowth by de Giraud (2014: 59, mt): "I am not sure a member of PPLD (French party for degrowth) would be brave enough to ask an under-nourished Haitian to economically degrow to reduce their calamitous ecological footprint on their local environment." Additionally, Vignal (2014: 173, mt) notes that an increasing inflow of migrants might discourage any denatalist pledges committed to local conservation (and that a too-large flow of migrant today might, through irreversible ecosystem degradation, limits possibilities for future immigration). This point is often made by conservationist campaigning for the protection of wilderness and large mammals, whose survival depends on the availability of unpopulated areas.

So when Kallis (2015c) makes the case that "the North should host the socio-environmental refugees that it has helped produce in the South,"[1] environmentally-minded critics of immigration could simply retort with the following question: Who then will be hosting the socio-environmental refugees of an overly welcoming nations after its own biocapacity has collapsed?[2] Yet, one could say that this is more of a urbanisation than an immigration problem. Indeed, if migrants were to settle in Alaska, the French Creuse, or the Swedish northern forests, the impact on local ecosystems might be negligible. Once arrived in a country, the decision about where to dispatch migrants could integrate, among others, ecological criteria.

Another point made by Sourrouille (2014b: 141) is that tourism should also be considered as a form of migration worthy of ecological scrutiny (for the author in the direction of a reduction in tourism). Even ignoring the climate impact of the travel, an important inflow of people can put pressure on the local environment (exacerbate water scarcity in Las Vegas, air pollution in Paris, species extinction in Madagascar, or waste discharge on Mount Everest). As beneficial as tourism can be for both parties involved, there is a case in placing limits on its flow as to avoid situations of "overtourism" or the overshoot of the biophysical and/or social carrying capacity of a community (Higgins-Desbiolles, 2018). Applying degrowth to tourism, Hall (2009) and Higgins-Desbiolles et al. (2019) both speak of "degrowing tourism," meaning both a reduction of touristic migrations and a change of their nature, with the former appealing to "steady-state tourism" and the latter to "community-centred tourism."[3]

It is my conviction that immigration is a political limit like any other. Households limit children, eco-villages limit newcomers, cooperatives limit employees, and so I do not see why it should be different for any city, country, or bioregion – although, of course, the larger scale is bound to complexify the question. On that particular point, I find myself in agreement with both Harding (2018) and Daly (2018) when they argue that limits are necessary (a point

[1] Victor (2019: 314) says just the same: "Since Canadians generate one of the highest levels of GHG emissions per capital in the world and Canada being a large, prosperous country, do we have a moral obligation to admit vastly more immigrants […] – not for the sake of economic growth in Canada, but because of the reduced chances for development in poorer countries?"

[2] The question is not completely ignored by degrowthers. Kallis et al. (2012: 7) set a research agenda on the topic: "What are the advantages of regional depopulations for the environment and well-being? How do regions adapt to depopulation and ageing populations? How may economic degrowth affect fertility, live expectancy, immigration and population in general?" Unfortunately, their call is yet to be answered.

[3] For Hall (2009: 57), "steady-state tourism" is one that "encourages qualitative development but not aggregate quantitative growth to the detriment of natural capital." As for Higgins-Desbiolles et al. (2019), they talk of "Community-Centred Tourism": "tourism should be reclaimed from an industry that has defined it as a business sector for their profit accumulation, to a human endeavour based on the rights and interests of local communities in welcoming tourists" (p.16).

degrowthers can hardly argue against), and that a political-geographical frontier is a limit like any other.[1]

Different communities have different and evolving welcoming capacities, both social and ecological. Degrowth's appeal to open border should be understood as a provocation in a political context that goes the opposite direction (especially concerning South to North migrations). Yet, detractors have a point in saying that migration, like any other human practice, should be bounded by the supporting capacities of their natural and cultural environment. There is an infinity of political arrangements between the unacceptable policies such as the French extreme right yearly quotas and Donald Trump's Mexican border policy, and the utopia of a world without borders.[2] In the end, migrations issues should be discussed as deeply political issues, appealing to justice principles, and never relying solely on universal, technical, and especially economistic considerations.

In conclusion, what we can take from the denatalist critique is that any material infinite growth, including the one of population, is impossible in a finite world.[3] Because of its steady-state nature, population must then be stable in a degrowth society, otherwise levels of resource consumption have to decrease proportionally to match the demographic increase.

From a degrowth perspective, the crucial point is that demography should be political: it is a choice that must be discussed politically and not economically. In that sense, degrowth is not Malthusian but neo-Malthusian in reference to British and later French anarchist movements of the end of the 19th century who opposed the natural determinism of Malthus's principles of population and advocated for the re-appropriation of women's reproductive rights. Via public lectures and pamphlets about contraceptive methods, they were trying to convince working class households to limit procreation in a *grève des ventres* (wombs on strike) as to oppose an oppressive system of exploitation (for more see Drouard, 1992). The individuals must not be constrained but empowered to regain control over their reproductive right, what Martinez-Alier (2009: 1114) calls "bottom-up neo-Malthusianism": "the idea of a voluntary restriction of procreation, a collective act of self-limitation against the engine of growth" (Martinez-Alier, 2015: 128). In France, this approach is often associated to Françoise d'Eaubonne after her 1974 "call for a procreation strike" in the name of ecofeminism – a term she coined the same year (for more, see Goldblum, 2019).

This was the approach taken by Yves Cochet in his provocative "strike of the third child"[4] that was aimed at denouncing the pro-birth policies of the French government. The goal was again political: to open a discussion about voluntary restrictions of procreation. If Yves Cochet is a good example of politicising the issue of population, the controversial Tweet of

[1] "Sensible immigration limits seem to fall in line with 'anachronisms in the arrow of progress' that you described as 'good.' Therefore, I believe everyone, including the degrowth movement, should embrace such limits as a matter of public policy" (Hardin, 2018); "Economic and political boundaries are necessary to achieve both national community, and global federation of national communities living in peace and ecological sustainability" (Daly, 2018: 24).

[2] In case it is not obvious enough, degrowth would reject any market-based instrument for immigration limits, for example the pay-for-entry scheme proposed by Becker (1987) and the visa market of Simon (1986).

[3] As pointed out by de Geus (1999: 212), a stable population is a common feature of most ecological utopias (e.g. More's *Utopia*, Morris's *News from Nowhere*, Howard's *Garden Cities of To-morrow*, Skinner's *Walden Two*, Huxley's *Island*, and Callenbach's *Ecotopia*).

[4] During a conference organised on April 4th 2009 by the journal *Entropia*, French degrowther Yves Cochet called for a European directive that he called "strike of the third child" that would invert the scale of family allowance as to deter people from having more than two children. "I propose that a family continue de receive the allowance for the first two children but that those should significantly decrease starting the third child" (Cochet, 2009, mt cited in Prieto and Sim, 2010: 83-4).

Agence France Presse (8 October 2018, citing a study by Wynes and Nicholas, 2017) putting "have one fewer child" in a list of eleven actions to reduce one's personal carbon footprint (among "hang dry clothes," "changing lightbulbs," or "having a plant-based diet") is a good example doing the opposite, namely turning the act of having children (a deeply cultural decision) into a technical consideration.[1]

Misguided, classless, escapist, and anti-revolutionary? The Marxist critique

Is degrowth an abandonment of class struggle? Particularly active among Marxists, this line of criticism sees in degrowth a capitulation of a battle again the logic of capital, with degrowth abandoning the ship of the economy to the capitalists. What I will refer to as the Marxist critique notes that degrowth is not sufficiently critical of power structures.

The critique is fourfold. The first two objections are analytical: the focus on economic growth detracts from what should be the real target, namely capital; and the degrowth framework ignores class struggle. The two others have to do with the ways it conceives revolution. Some attack degrowth for advocating the building of a counter-society, which would leave existing institutions in the control of whoever is left (as I will show, this critique is rather a misconception). And others oppose degrowth's attitude towards employment and its potential consequences for power relations between workers and capitalists.

Shooting at the wrong target

For Marxists, growth, growthism, or the growth society is the wrong target. Degrowthers like D'Alisa et al. (2013: 215) acknowledge the criticism: "Marxist authors have accused degrowth of not engaging with the capitalist structure of modern society by being based simply on ethics, good practices, and lifestyle rather than political conflict." "Because of its focus on values and imaginaries," Pineault (2018: 2) writes, "Degrowth has often been dismissed by Marxists as idealistic."

In an article titled "Degrow or die?" (2010), Marxist scholar J. Bellamy Foster writes that "to pin one's whole analysis on overturning an abstract 'growth society' is to lose all historical perspective and discard centuries of social sciences."[2] The author's alternative is to target "deaccumulation" instead as to "transition away from a system geared to the accumulation of capital without end." For Vettese (2018: 68), Daly's critique of "growth fetishism" is misguided: "Profitability, not abstract measurements like GDP, is what matters. The latter's late arrival in the history of capitalism hints that it is more foam, while the struggle to maintain profitability goes on in the churning depths." In a similar vein, Abraham (2019b: 229, mt) argues that degrowthers should not focus their critical gaze on either "the economy" or "the market," but rather on firms: "to set the market as a target […] is the pursuit of a chimera, which does not address the real cause of social, ecological, and political difficulties that we are

[1] This does not invalidate the result of Wynes and Nicholas (2017). The problem lies with the individual framing of the decision to have children. Notice how the *Project Drawdown* make the same point but with a more general (and therefore potentially political) framing of this issue. In its ranking of 80 climate solutions, it lists "family planning" and "educating girls" in seventh and sixth position.

[2] Here is a full quotation from Foster (2011: 30): "Lacking an adequate theory of imperialism, and failing to address the vast chasm of inequality separating the richest from the poorest nations, Latouche […] reduces the whole immense problem of under-development to one of cultural autonomy and subjection to a Westernized growth fetish."

facing." For Fotopoulos (2010b), economic growth is not the problem but "the market system." To this, we can add Isakara (2020) who argues that degrowth's focus on *wants* while ignoring *profits* is misinformed.[1]

Another example is Harribey (2008: 3-4) who criticises Latouche (e.g. 2007: 140) for assuming that the critique of capitalism is unnecessary because it has, not only already be done (by Marx according to Latouche), but also because capitalism is itself a sub-category of growthism. Reviewing Latouche's *Décroissance* (2019), Harribey (2019) argues that his definition of the economy is too narrow and only reflects the form it has historically taken in capitalism. For Harribey, it is not economy that should be escaped, but the capitalist economy. The French think tank *Association for the Taxation of Financial Transactions and for Citizens' Action* (ATTAC) condemns degrowth for mistaking capitalism for the economy and thereby refusing to acknowledge class struggles (Duverger, 2011: 140). Phillips (2015: 113-14, italics in original) goes the same direction: "the problem with capitalism is not economic growth, but *lack of planning*, and so our target should be the mode of production (capitalism), not growth itself. Our goal is a *democratically planned economy* […] not degrowth or a steady-state economy. […] [One then should] take over the machine instead of turning it off."[2]

Dissolving classes

Who should be concerned by degrowth? This question has been running through several controversies in this chapter. Here, detractors argue that degrowth shies away from pointing at specific classes and hides behind vague categories such as "consumers," "polluters," or "people of the global North."

> "certain ecologists have avoided the labor movement and have adopted the slogan 'neither left nor right.' Ex-Marxists converted to ecology hastily say 'goodbye to the working class' (André Gorz), while others (Alain Lipietz) insist on the need to abandon 'the red' – that is, Marxism or socialism – to join 'the green,' the new paradigm thought to be the answer to all economic and social problems" (Löwy, 2005: 17);
>
> "Degrowth ignores divisions of society into classes, differences between exploiters and exploitees, workers and capitalists, and even the difference between the rich and the poor – all of them are bundled into the same category of 'hyper-consumers.' […] The term consumption includes everything: from the bowl of rice of someone starving in Bombay to the giant yacht of Bolloré. In a pays like ours [France], where numbers of cases of food theft is on the rise, it is astounding to hear people denounce consumption without making a difference between different consumers… that is between social classes" (Vendrillon, 2009, mt);
>
> "[Talking of Naomi Klein's *This Changes Everything*] Who are these 'comparatively wealthy' folks? Oh, everyone in the West. Once again, for someone who claims to tilt again capitalism, it is remarkable that Klein makes no class-based differentiation in developed countries. We all apparently consume at the same rate" (Phillips, 2015: 156);

[1] [In a review of Kallis's *Limits*, 2019]: "I think a fundamental misconception of capitalism is at play here. The capitalist system is not driven by wants (or demand; also not by supply, or investment, for that matter), but rather by the pursuit of profit."

[2] And more recently: "Beyond the injustice that would result from a steady-state economy, let alone actual degrowth, by targeting growth instead of the market, the green Left and its allied figures have lost sight of the real problem at hand. We did not save the ozone layer by limiting growth in the production of fridges and cans of hairspray. It was regulatory intervention in the market that did the trick. It was *planning*, in other words — global economic planning" (Philips, 2019, italics in original).

> "Simply ignoring class politics will do a disservice to degrowth, e.g. it will obscure the (largely) white middle-class nature of the movement and thus its possibilities for political action" (Barca, 2017a: 7);
>
> "A relevant question not touched upon by Dietz and O'Neill [2013] is *who* should change their consumption behaviors. If the small minority of 10% of the world's population who account for 40% of CO2-emissions changed their consumption behaviors, CO2-emissions would decrease […]. Or, should we *all* change our behaviors […]?" (Paulsson, 2017: 219);
>
> "Proponents of degrowth and those who argue that we need to do something dramatic regarding climate change are singularly coy and shy when it comes to pointing out who is going to bear the costs of these changes" (Milanovic, 2018);
>
> "Opposition to luxury and 'excess' in the abstract, and a prospectus of universal frugality, is conciliary to those kleptocratic elites unless they're knitted to programmes to overturn the foundations of social injustice by eliminating absolute and relative poverty, and turning private productive and landed property over to the commons" (Dale, 2019);
>
> "This is probably the weakest spot in the degrowth political project, insofar as degrowth is perceived to be ideationally driven, that is, not based on the material interests of any particular social constituency" (Barca et al., 2019: 6);
>
> "While the Degrowthers do briefly consider matters of class in at least two texts (one mentions the issue of rent and increasing the work hours needed to simply afford housing and its carbon footprint), they shy away from blaming landlords as the root of the problem" (Asem, 2020).

Marxists are surely right about degrowth's insufficient analytical treatment of the issue of class struggle. This is the claim of Bliss (2018) who argues that the silence on issues of race and class makes degrowth unprepared to the political reality of the United States. While degrowth authors often criticise the worker/capitalist dichotomy as being increasingly irrelevant in an age of prosumption, it has not proposed any alternative way to conceptualise power structures. "What is missing to move forward with this common plan [degrowth] is a clearer vision of what political subjects and which processes of political subjectification can make it happen (Barca, 2017a: 2). Same criticism for Huber (2019b): "a class analysis would always be premised on not the aggregate of society (and whether or not it needs to grow or degrow), but rather conflictual class divisions where a few have way too much and the majority have too little."

Voluntary simplicity is indeed easier in certain social settings than others. This has led to critiques denouncing it as an "aristocratic ethics" (Romano, 2012: 586), a "luxury debate" (Rodríguez-Labajos et al., 2019: 177), or a "self-centred, narrowly hedonistic philosophy of life available only to a privilege few" (the criticism is reported by Alexander, 2011: 200). Huber (2019b: Part 2) argues that degrowthers' appeal to voluntary simplicity goes in reinforcing class divisions: "One thing that unites these austerity perspectives – from Alan Greespan to degrowth – is that they emerge from a specific *class formation* mentioned above, 'the professional-managerial class' who induce this rather guilt-ridden conviction that 'all of us' consumers are at the root of the problem."

For example, I can easily buy vegetarian food and cycle in Stockholm whereas this might prove to be nearly impossible in Detroit. Also, the Swedish cultural representation of the act of cycling as a healthy, environmentally-friendly practice makes its more inviting. Likewise, the type of labour law regulating my occupation allows me to work less and its customs enable me to easily transform productivity gains into more leisure time, which might not be the case

of a surgeon or a garbage collector. "[T]he degrowth movement seems to appeal to voluntary frugality as the main strategy for achieving social transformations. This tactic is however very naïve (extremely inoffensive) for achieving global justice. Is calling for voluntary frugality likely to change global power imbalanced? Very likely not" (Muradian, 2019: 259).

In this spirit, I agree with Kallis (2013: 95) who prefers to talk about "right to simplicity" to emphasise that the priority should be to safeguard "a set of social and institutional conditions that make the choice of a simpler living possible and hence facilitate adaptation."[1] And this was already the point of Latouche (2003c, mt) in one of the first degrowth text: "Even if the choice of a different personal ethic like voluntary simplicity can indeed make a difference and corrode the imaginary foundations of the system, this change will remain limited without a radical questioning of the system itself." But Marxists commentators will be quick to point out that a vague reference to "the system" abstracts away power relations.

But some authors are more precise. In a short book contribution titled "For degrowth: class struggle," Bayon (2016: 209, italics in original, mt) is as vocal as it gets in saying that "as long as ruling classes make investment decisions, nothing will radically change. […], which is why we have no choice. Ruling classes must be *expropriated*. There is a need for class struggle to substitute an ecological economic value to the capitalist economic value." Same for Akbulut et al. (2019: 5-6), who do not shy away from pointing to those who should bear the bulk of the shrink: "we need to downsize the global metabolism, and the proper way to think about this downsizing can only be world-systemic and class-based. […] the degrowth critique applies to the global middle and upper classes regardless of their geographical location."

Running away from the battlefield

One risk of the voluntary simplicity advocated by degrowth is to believe that the key leverage point for change is consumption thereby moving the focus from politics (actions of citizens) to economics (actions of consumers). This corresponds to a common criticism of downshifting as being escapist or apolitical with people seeking to escape the system rather than transforming it (Alexander, 2011: 202). Here are several quotations that exemplify this stance:

> "The way to transcend the consumer-capitalist system in the long run is to ignore it to death, i.e., to turn away from it as much as is possible and to *start building its replacement and persuading people to come across*" (Trainer, 2012: 597, italics added);
>
> "we will not change this world. But nothing prevents us from *building a new one next to it*" (Ariès, 2010c: 2, mt, italics added);
>
> "advocates of degrowth in a broader sense call for an organized and voluntary *exodus from the capitalist growth economy*" (Petridis et al., 2015: 177, italics added).

This is the same criticisms Marx made to the utopian socialists, which he accused of seeking "to achieve salvation behind society's back" (the phrase is from the *The Eighteenth Brumaire of Louis Napoleon*, 1852). Yet this criticism should not be pushed to the point of depicting

[1] On that ground, Dale (2019) is perhaps too quick in attributing to Kallis an "ingrained liberal view" where "consumer demand is the motivating force that drives and shapes economic life." With little doubt, Kallis (and most degrowthers) would agree that voluntary simplicity at the individual level must come together with the "programmes to overturn the foundations of social injustice" that Dale (2019) sees as necessary.

growth objectors as plotting the creation of a sort of Galt's Gulch, a form of societal reset somewhere outside of existing struggles, which would then become a misinterpretation:

> "an attitude that seems to be advocated by the proponents of degrowth: defection, exit from the system, refusal to participate. The exile from the system is seen as a way to make it collapse" (Di Méo, 2006: 25, mt);
>
> "The discourse of responsibility centres around individual sacrifice. The problem is that by focusing on this individual or personal dimension, as many degrowthers do, one prevents any collective transformation of the model of production and consumption" / "the attitude of the degrowther is, most often, characterised by an abandonment of politics, a desertion from collective and public action" / "The escape to eco-villages or cabins advocated by degrowthers is not, and will never be, a collective solution" (Di Méo, 2006: 170 / 171 / 175, mt);
>
> "[it is a] programme only available for only a minority of the world's people, even in the global North. Who has the option to 'exit the economy'? At best, we can welcome his [Latouche] degrowth program as pointing to the creation of local food- and energy-producing cooperatives as complementing and supporting class struggles in the real economy; at worst, it calls for a withdrawal from class struggle, a reprise of the (failed) 1960s hippy commune culture" (Schartzman, 2012: 122);
>
> "Running off to the woods and writing poetry instead of, say, unionising your workplace. Rather exactly the sort of deference and submission that the masters of the universe desire" (Phillips, 2015: 240).

The misunderstanding can easily be resolved by emphasising the collective aspect of the escape from the economy, or the fact that it is not a selected minority who actually leave, but society as a whole as well as nature. Even the "leave" must be taken with a grain of salt; *to leave* means to abandon certain institutions and ways of thinking, without necessarily involving geographical displacement – the "running off to the woods and writing poetry" castigated by Phillips (2015: 240). Degrowth is not an exodus but a revolution happening at the heart of contemporary society, it aims to "take back the economy" (Gibson-Graham, 2013).

Disempowering the working class

Certain Marxist authors argue that environmentalists in general, and degrowthers in particular, act against the interest of workers, and therefore undermine the possibility for revolutionary struggle. Dale (2019) asks: "What 'just transition' programmes would they [supporters of degrowth] discuss with, say, the Kentucky miners who are blocking coal trains to demand back pay?" Voluntary simplicity, they say, makes people able to live with lowers levels of income, therefore inviting profit-seeking firms to pressure wages down or governments to justify austerity policies. In his account of the Leipzig international degrowth conference, Swift (2015) remarks that trade unions were absent. Isakara (2020) laments about how the degrowth literature treats the question of the revolutionary subject: "Who is to be addressed? Who could challenge the relentless expansion of capital and thereby the capitalist system in its totality?"

> "Any struggle to increase purchasing power is considered as an attempt to generalise a lifestyle considered unsustainable" (Di Méo, 2006: 110, mt);

> "Through their apology of defection towards the system, they [degrowthers] breaks away from a tradition of Fordist redistribution of wealth. In theorising a society of poverty, they are making one more step towards the dismantlement of the welfare State" (Di Méo, 2006: 168, mt);
>
> "degrowth gives legitimacy to the idea that if everybody were to tighten their belt, the world would improve, and that workers should rejoice at the idea of seeing their purchasing power decrease. With traditional environmentalism, one can convince a worker to not buy a car and bike to work as to 'act for the planet.' With degrowth, this goes one step further: workers are even acting for the global poor, because by reducing their consumption, they would allow people in Africa to consume" (Vendrillon, 2009, mt).

The disagreement here has to do with both who is to be considered the agent of revolutionary change and what they should struggle for. The orthodox Marxist analysis posits workers as change agents and income as the goal, and so indeed, if the downscaling of production and consumption advocated by degrowth ends up disempowering workers, it would undermine the possibility for structural change. Hence Barca's (2019: 182, italics in original) plea: "the degrowth movement desperately needs to reach out to and mobilize wages workers and their organizations by elaborating a vision for their possible liberation […] *within* the wage relation."

But, as Lepesant (2018: 232-35, mt) argues, is it not paradoxical to speak of a "degrowth subject" if degrowth aims at deconstructing the very notion of a subject? (As I understand it, Lepesant refers to degrowth's critique of individualism.) More generally, one could argue that because degrowth aims to destroy the hegemony of wage-labour over other forms of activities, it should be wary of expecting wage-labourers (the Marxist workers) to support its cause. Even though, and this will be one of the main claim of Chapter 10, a degrowth transition would be in their interest.

If not workers, then who? One should consider a broader category of change agents carrying a diversity of emancipatory demands, for example including the victims of pollutions as in Bellamy Foster's (2017) "environmental proletariat," Martinez-Alier's (2002) "environmentalism of the poor," Leonardi's (2019) broader understanding of the working class, Bayon's (2016) "ecological class," Gibson-Graham et al.'s (2016) commoners, and Barca's (2017a: 8) "global class" that includes "both wage labor and the myriad forms of work that support it," or "women, peasants, artisans, workers and indigenous people" (Akbulut et al., 2019: 7).[1] Degrowth calls for a wider struggle where revolutionary agents are not merely fighting for a piece of the cake but for autonomy over its recipe and in defence of the social-ecological foundations that allows its existence.

Unaffordable? The Keynesian critique

A 2009 speech by German chancellor Angela Merkel (cited in Schmelzer, 2016: 313) says it all: "Without growth no investments, without growth no jobs, without growth no funds for education, without growth no aid for the weak." Because governments finance themselves by taxing market activities, GDP growth translates into additional revenues that can be spent on

[1] "Unlike traditional labour movements, EJ [environmental justice] and degrowth do not usually focus on the capital vs. labour conflict within processes of (re)production but are rather concerned with the defence of the community, its territory and the environment against capitalist accumulation. In other words, the focus of EJ and degrowth is often less on the conditions of production and more on the conditions of existence and reproduction of society" (Akbulut et al., 2019: 6).

public services such as health, culture, green infrastructure, and education. The welfare State (and especially some of its redistributing function, e.g. pensions and health insurance) are what Petschow et al. (2018: 13) call "growth-dependent areas," and it is because of this dependence that modern governments have become "GDP junkies" (Philipsen, 2015: 133).[1]

So there is a problem with degrowth: How to maintain such a welfare infrastructure out of a decreasing volume of market activities? "How would debts be repaid in a contracting economy?" (Alexander and Gleeson, 2018: 95). "How to reconcile the absence of growth with the enormous budgets that should be invested in the energy transition, as recommended by the International Energy Agency?" (Fournier, 2018: 112, mt). "How will we fund the degrowth transition, since most profits come from extractive industries?" (Vansintjan, 2019). "Is the post-growth society […] compatible with a social regime that ensures high levels of protection and solidarity?" (Cassiers et al., 2017: 48, mt). In short, how to make sure that degrowth does not endanger the welfare State and, through it, the livelihood of the most vulnerable.

In a context marked by a battle of giants between neoliberal austerity (reduce public expenditure) and a Green New Deal (increase public expenditure), the question of public finance has become a pressing puzzle for degrowth to solve. The importance of this issue has not escaped the scrutiny of critical commentators:

> "Yet, how to guarantee pensions, social security, and unemployment benefit in a system based on self-production? This necessarily brings back a reliance towards family and community for solidarity instead of relying on society" (Di Méo, 2006: 168, mt);
>
> "A second obstacle to degrowth is the fear of lost revenue and a lost capacity to fund the level of social investment required to achieve degrowth and support even minimal social standards within an eco-socialist or even social democratic model" (Murphy, 2013: 81);
>
> "One major worry for any government wanting to shift to an equitable post-growth economy is that sources of state revenue will decline, since taxes will be tied to undesirable industrial and consumer activity, which is designated to decrease. In the long term, a key challenge will be to maintain adequate sources of revenue to fund necessary state services such as pensions, health care and transport infrastructure" (Cattaneo and Vansintjan, 2016: 20);
>
> "the collapse of effective demand in the economy would significantly reduce the fiscal flows to the state, undermining the capacity of state institutions to enforce property rights and contracts; to institute stable patterns of international trade; to marshal accessible flows of cheap energy; and to invest in all manner of public infrastructures, not least the university system. […] through diminishing welfare transfers, ineffective policing etc., there would likely be a resurgence of alternative primary 'survival groups' based on place, family tribe, religion or ethnicity. This is very apparent in failing states such as Somalia or Syria" (Kish and Quilley, 2017: 313);
>
> "financial resources cannot be replaced with idealistic post-growth principles. […] public institutions, especially in the Global South, are seriously lacking the financial resources they need in order to provide basic services, infrastructure, and social programs. Blanket de-growth prescriptions will not be acceptable" (Hollender, 2015: 92);
>
> [talking about Peter Victor as a representative of degrowth] "he doesn't examine what impact this loss of GDP would have in funding for health care, education or, for that matter, environmental problems" (Pollin, 2018: 24);

[1] Here is how Petschow et al. (2018: 13) describe "growth-dependent areas": "those social systems, structures and institutions, (a) that fulfils a socially desirable function or contribute to socially widely accepted goals, and (b) whose socially acceptable functionality or contribution under current framework conditions depends on a continuously growing economy."

> "The degrowth that you and your comrades are advocating will bring a general impoverishment that will result in less services and a decrease in life expectancy. If the economy were to contract, how would we maintain hospitals, schools, and public services like, for example, information and transportation?" (Simard, 2019, mt);
>
> "For example in the case of pensions: with massive growth (>3%) or a radical reform, we will forever have to deepen the public deficit to pay the increasing number of retirees out of the revenues of a decreasing number of active workers" (Willers, 2019, mt).

So far, I agree with Helne and Hirvilammi (2019: 225) that the degrowth discussion has "partly skipped over the magnitude of policy-level challenges and has perhaps therefore underestimated the tasks ahead for the welfare states whose institutions have been developed side by side with capitalist accumulation and economic growth." Jackson and Victor's (2019: 55) latest simulations are a case in point. In their most progressive scenario, debt to GDP ratio rises from 50% to 60%, which "raises a potential concern over the long-term sustainability of the Canadian economy." To this, they quickly brush the question away by arguing that one should not worry too much about deficits (the *Modern Money Theory* argument) and that the government could issue debt-free sovereign currency (the *Sovereign Money* argument) – a line of arguments that is commonplace in the growth-critical literature (e.g. Jackson, 2018: 30).

But there is more to this controversy than a mere worry about slightly larger deficits. In France, value added tax, income tax, and profit tax represent almost 90% of public revenue in 2019, with value added tax alone making half of the State budget (Direction du budget, 2019).[1] Reduce the consumption of commodities, hours of paid employment, and company profits, and public revenue automatically goes down. I have argued that degrowth is not austerity, but could degrowth lead to austerity? Understanding degrowth as a reduction in GDP, Duval (2005, mt) argues this is the case: "embracing degrowth would probably mean decreasing first and foremost the socialised part of the monetary economy [he is talking about State transfers and public services such as health and education]. Along the same line, Wasmer (2011) castigates degrowth as "a return to the pre-social era" and Di Méo and Harribey (2006) see it as "relatively dangerous" if it threatens the solidarity institutionalised via the welfare State.

In 2013, Duval repeated the same criticism[2] with the additional point that degrowth would actually hinder the ecological transition by reducing the ability of the government to subsidise renewable energy.[3] Brosse (2010) criticises degrowth using the same argument; he defends economic growth because it "gives us the economic and moral means of addressing ecological issues." This is not only a French debate. Here is Pollin (2018: 10) commenting on T. Jackson, J. Schor, and P. Victor: "a higher economic growth rate will also accelerate the rate at which clean energy supplants fossil fuels, since higher levels of GDP will correspondingly

[1] In France, the first five sources of revenues are all based on GDP: (1) VAT (€186 billion), (2) CSG (€101 billion), (3) income tax (€86 billion), (4) profit tax (€65 billion), and (5) taxes on energy products (€37 billion) – these are public numbers that I am taking from Guillou and Perrier (2019: 9).

[2] "Concerning the help provided by the State to people who do not directly participate in productive activities, its generosity depends on the total volume of economic activity. […] And as we can see today in Europe, the risk is that a degrowth of economic activities translates in a limitation of these socialisation mechanisms, which would mean the regression of collective solidarity" (Duval, 2013, mt).

[3] "As we can see today in Europe, recession, that is the degrowth of the economy, does not help these institutions [the welfare State]. In fact, it significantly worsens these chronic problems. In such a context, governments cut subsidies to renewable energies and support old industries in order to limit dismissals. […] All in all, in practice, degrowth slows down the ecological transition instead of encouraging it" (Duval, 2013, mt).

mean a higher level of investment being channelled into clean-energy projects." As Cato (2014b: 121) summarises: "we can't be green if we're in the red."

This is a legitimate worry. The question of financing the welfare State during a degrowth transition is dynamic one with at least two stages (Cattaneo and Vansintjan, 2016: 20-21). In the first reforming phase (i.e. early in the transition), economic activity is still high and so are the revenues from old and new forms of taxation. In a second stabilising phase, that is after the shrinking of the market sphere, the State will indeed need to organise redistribution differently. (These two phases fit with the changing role I will ascribe to the national State in Part III of this dissertation: an active role in the beginning of the transition that is to fade away in the long-term as power is being decentralised to the local level.)

Here is how I attempt to solve the degrowth-welfare puzzle. First, I will show that the public budget can be used more efficiently than it currently is, for example by phasing out unearned income (economic rent) and focusing on prevention rather than cure. In parallel, I will also show that the fiscal reforms that I associate with degrowth in Part III will generate a temporary rise in public revenue. This is why welfare services can increase in quality and quantity alongside a shrinking of economic activities (even though, eventually, their quality/quantity will not depend on money). My second point concerns the long-term provision of welfare services and its financial sustainability. The main message here is that the quasi-disappearance of market activities does not necessarily mean the end of the welfare State and that there are several institutional arrangements that could secure social security without relying on a constantly rising production of commodity.

Phase 1: Rebalancing the public budget

In the first phase of a degrowth transition, the State will function pretty much as it does today: it will collect money via taxation, spend money in the economy, and accommodate the difference between the two via borrowing or monetary creation. As I will argue in Part III, several of the policies degrowth call for (e.g. universal basic income, work time reduction, job guarantee, investment in renewable energy) rely on strong financial support from public authorities. If that is so, money must be found somewhere. This is an old question and the solutions are well-known: cut spending, increase taxes, or print money.

But before detailing each of these options, let me make a preliminary remark concerning the argument that the State cannot play an active role in a degrowth transition because it will short on funding. A *more active* State is not necessarily a *more expensive* State. The implementation of degrowth requires a diversity of legislative actions, for example to enable the emergence of alternative currencies, to allow higher rates of income taxation, or to encourage work time reduction. But a law to legalise local currencies is not more expensive than a law to ban them. My point is that the State is not only a purse and that certain changes are actually cost-neutral for the public budget.

Cut spending[1]

[1] Let us avoid any misunderstanding: "cutting public expenses" should not be read as an appeal for neoliberal austerity, either to decrease the quantity of provided services or to "do more with less" via efficiency gain. What I mean is that the State could run more services, of a better quality, not by stretching the euros it has, but by organising these welfare services differently.

Let us start with the obvious: some public expenditure act directly against the values and principles of degrowth. Increasing the State budget is not in of itself a good thing, not for example if the money is spent on military expenditure, subsidies to fossil fuel companies, or investment in the renovation and building of nuclear plants. Cattaneo and Vinsintjan (2016: 21) also add less need for "megaprojects such as highways, shipping ports, military bases, power plants, and airports."

Pearmain and Heatley (2014) call for "smaller but better post-growth public services" and Murphy (2013: 81) writes that "there remains the possibility that, especially in the longer term, education, health and housing costs will be lower there will be less stress on public expenditure." (This is the point developed at length by Philip Monaghan in his *Sustainability in Austerity. How Local Government Can Deliver During Times of Crisis* ,2010: it is possible to do more with less.) Koch (2019a: 14-15, italics added) speaks of a "*recalibrated* – and in all likelihood *downscaled* [welfare state] to meet human needs within environmental limits."[1] Cattaneo and Vansintjan (2016: 21) hint that fiscal budgets "managed at local levels" without "need for large infrastructure" will reduce the need for public purchasing power.[2] Kallis (2018: 108-09) points to Cuba and Costa Rica to show that it is possible to reach a decent level of education and health provision at a lower GDP than Western societies aspire to reach. (Kallis also adds that there is no reason why such expenditure would continually need to rise.)

In an article about healthcare under a degrowth regime, Borowy and Aillon (2017) recommend to organise existing programmes "more intelligently and more creatively" as to retain the benefits while lowering the bill. For example, by focusing on prevention and the social and environmental determinants of health, by promoting self-care and traditional medicines, or by reducing patent monopolies to a minimum (e.g. open source drug research), there could be "a shift of focus from cure to health promotion and from a biomedical to a social approach to health."[3] Talking specifically about healthcare and pension systems in post-growth conditions, Demailly et al. (2013: 61) propose a "soft option" with a shift from *curative* to a *preventive* approach and a discouragement of treatments considered ineffective.

What brings these authors together is the acknowledgement that social security is not about money but about protecting individuals against a range of risks having to do with health, employment, housing, and so on. The more risks, and the less individuals are able to handle shocks, the more "expensive" social protection becomes. But what if these risks were lower? (Except pensions; becoming old is not risk but a normal state of things, which is why I pointed to pensions and healthcare as *growth-dependent areas*, at least in countries with an ageing

[1] "if traditional and national growth-tax-expenditure models are no longer viable, democratic policy-auditing practices would need to delineate how welfare and environmental states may be recalibrated – and in all likelihood downscaled – to meet human needs within environmental limits. Smaller 'eco-social' states may be acceptable as long as these are embedded in an economic system that provides relatively egalitarian outcomes and costs related to inequality, (unhealthy) work-like balances, and environmental deterioration" (Koch, 2019: 14-15).

[2] "Within a post-growth economy, steps would need to be taken to 'strike' illegitimate debt while, depending on the kind of monetary reform that is adopted […], it seems likely that governments would tend to have small legitimate debts, since fiscal budgets will be managed at local levels and there will be less need for large infrastructure" (Cattaneo and Vansintjan, 2016: 21).

[3] "This would mean giving up the implicit assumption of many medical doctors, patients and politicians that health is primarily a function of healthcare and that, consequently, more healthcare invariably equals better health. […] The aim is to separate the provision of patients with needed medication – a desired outcome – from the maximization of corporate profits irrespective of health effects – an undesired outcome" (Borowy and Aillon, 2017).

population.) This prevention-rather-than-cure approach could become a general principle, not only for healthcare for also for environmental governance.

And what if kindling GDP growth costed more than it is worth? This is the point I made in Chapter 3 and Chapter 4: economic growth has turned into "uneconomic" growth in the sense that it bears more costs than benefits. That is how Cassiers et al. (2017: 54-55) and Kallis (2018: 108) solve the welfare puzzle, by removing the need for the State to repair the damages created by economic growth (e.g. pollution, health, stress, green jobs, working conditions).

Another way of making the public budget smaller is to decommodify the provision of its services. If a large portion of total public health expenditure has to do with the purchase of medicine from private, for-profit pharmaceutical companies, the question is: How much lower would that cost be if the same firms were run as not-for-profit, mission-driven, cooperatives, or State firms, or commons? (The same question can be asked about private insurance, private medical practices, private schools, etc.).

For example, Kostakis et al. (2016) compare the costs of prosthetic devices as manufactured either by for-profit businesses or commons-based peer production cooperatives. While the prices of the former are between $10,000-30,000 (sometime as high as $100,000) for a prosthetic hand, the cost of production averages $200 in the *OpenBionics* project they study. Same case for small wind energy, a locally manufactured small wind turbine costs $1,700, which is 65% of its selling price on the market (ibid. 6). This is only one example and I am not trying to claim that all welfare-providing firms benefit from unearned income.[1] But it remains a general rule of capitalism that firms will sooner or later strive to increase their profits (Chapter 1), and so one should not be surprised if they do.

The question of public debt is crucial. Sakellaridis (2019) points to the sustainability of public debt as one of the major obstacles to degrowth in Greece.[2] Debt servicing is often a significant portion of the public budget (This would become worse if a reduction in public revenues during a degrowth transition is filled by an increase in privately-owned public debt, then creating a future growth imperative in the form of an obligation to pay interest on the debt.) Financing a public debt is expensive because the funds are borrowed from private investors demanding an interest, and because countries cannot finance themselves by borrowing from their central bank. But this does not have to be so. First, the part of the debt that is illegitimate

[1] Here is a personal anecdote. I went to the dentist the other day to fill a cavity. It ended up being more serious than I thought and the tooth actually needs some root-canal work (removing the nerve inside the tooth). As I was told, only a few specialists can do such job on the specific tooth I have a problem with. Luckily for me, so I thought, my personal dental adventures coincide with the passing of a new law that sets ceilings on the price of dental work (from January 2020). Public authorities estimate the cost of my operation at €94,80, with a 70% coverage from social security. Now, for some reasons, the specialist I am seeing (remember, the only one in the region) is not yet obliged to follow this law. Results: the price of her performance is around €600. Announcing myself as a curious economist, I enquired as to the reasons why her price was higher than the recommended public price. Bothered, she explained that it took many years of training to become a dentist, that the machines were expensive (again sold by a for-profit firm), and that, after all, "everybody was just doing the same." I did not push my investigation further for that it is difficult to speak (and even more to argue) during dental work, but I suspect this is an economic rent.

[2] "The first challenge to the development of a solid degrowth narrative in Greece emanates from the public debt sustainability and its relation to output growth. From the moment that Greece was confronted by a public debt solvency crisis, debt sustainability became the goal of the pursued policies, at least rhetorically. The key variables for public debt sustainability are fiscal primary balances and the relationship between interest rates on government bonds and nominal output growth rates. If the nominal growth rate is less than the interest rate, the so-called "snowball effect" is triggered, raising public debt, even under a primary surplus. Output growth then becomes the most crucial variable for public debt sustainability. Under such pressing circumstances, proposals for a "degrowth" strategy have little appeal" (Sakellaridis, 2019).

should be repudiated – this is what Cattaneo and Vansintjan (2016: 21) argue. Then, the government must find another way of financing its deficit (we will return to this in Chapter 11).

Increase taxes

Let us start by pointing to the fact that not all GDP is taxed. There is tax avoidance, tax credits granted to companies, among a variety of other missed opportunity to raise public revenues, many of them contributing to economic inequality. If *the first degrowth is the one of inequality*, then it means taxes must increase.

In Part III, I will propose a reform of income and wealth taxation, with a maximum income put above €90,000 per year and a similar cap on personal wealth set at €2 million per person. Only 1% of the French population would be eligible to the wealth tax (500,000 people), with a potential revenue of €1,750 billion, roughly five time the annual public budget of the French government. The proposal is radical but it shows that the money is there.

Of course, the wealth tax above is a one-off payment and cannot be expected to finance public services over the long term. In a degrowth context, even the income tax will necessarily shrink as the overall volume of hours spent in paid employment decrease. Similar situations for all the taxes on materials and energy that I will recommend: their goal is to shrink certain activities, and they are therefore destined for a zero return once this is achieved. But this is not necessarily a problem. What must be done is to use these one-off payments to invest in an infrastructure that is itself not dependant on official money. This is the idea I will develop in the last part of this controversy.

Print money

By "printing money," I do not mean the *Quantitative Easing* of the European Central Bank but a more ambitious reform of the monetary system, a proposal that is often referred to as *sovereign money* and which is one of the policies I will explore in Part III. Sovereign money is a nationalisation of the process of monetary creation. Under such system, commercial banks lose their power to issue money with the central bank being the only one able to do so. Once pre-set by the central bank, a given volume of money would be issued into existence by the government free of interest.

Detractors will be quick to argue that a government cannot indefinitely print its way out of a budget deficit. And indeed, under a sovereign system, the entirety of the budget must be matched by taxes, satisfying the principles of sound housekeeping (Huber, 2018: 175). Besides, one should not expect significant seigniorage revenues in an economy undergoing degrowth or in a steady-state economy. This is because the money supply will be either shrinking or stable. Added to this is the fact that most of the transactions will tend to rely on alternative currencies, then reducing even more the need for sovereign money.

And yet, there will be a one-off seigniorage revenue during the transition from the current monetary system to a sovereign money one. The revenues would be significant – Huber (2018: 177) estimates that half of the public debt in the Eurozone could be redeemed using this one-off seigniorage. This is a *stock* and not a *flow*, and thus cannot be used to finance public services over the long term, but it can be used to repay part of the public debt (the one that has not been repudiated) and to invest in the creation of welfare-targeted local currency schemes.

Phase 2: Welfare services in a post-growth economy

Everything I have said until now concerns the early years of a degrowth transition. But let us imagine a different situation. We are now further in the future and economic activities have shrunk significantly. People spend few hours in paid employment as most work is performed either voluntarily or via reciprocity schemes; the revenues of eco-taxes are near null because polluting activities have stopped; and no one earns or owns significantly more money than someone else. There is money but it is used sparsely and it takes a diversity of forms (time tokens, energy-backed currency, emission permits, etc.). In such a situation, how is redistribution organised and what is the role played by the welfare State?

To understand the point I am about to make, one must consider what is necessary for an economy to function, namely time, resources, and energy. In a market society where the time of doctors, the plastic gloves and brick walls, and the fuel to keep an hospital warm can only be acquired with money, the State must indeed have access to currency. While the lack of these resources is an absolute limit, the lack of currency is not. After all, social security is about fulfilling needs: if I am directly provided access to healthy food, doctors and dentists, and a house, I do not need a cash stipend to buy food, pay doctors and dentists, and rent a house.

Mastini (2019) captures this point perfectly: "Financing the welfare state through income taxation is like producing electricity through waste incineration. One kilowatt of electricity produced from an incinerator dissipates more energy than one from a power station because of the two steps involved: first producing the object that becomes waste and then producing electricity from that waste. Similarly funding the welfare state with money coming from income taxation is dissipative because it entails first creating wealth in the market economy and then channelling some of it into public services."

Here is an example I like: the jury system. In theory, while ignoring obvious legal issues, one could commodify jury services. If one does, it means that the State who used to run this service *free of charge* would need to find additional funding to pay the professional juries. The solution to the degrowth-welfare paradox is to do precisely the opposite: decommodify certain goods and services as to be able to organise provision at a pre-monetary stage. By "pre-monetary," I mean by dealing directly with flows of time, resources, and energy. I provide an hour of jury duty for free under the agreement that I will be offered juridical services free of charge the day I am convicted of a crime. I give part of my harvest to a seed bank and receive other seeds later when it is time to sow.

In one of the most detailed description of the economy of a degrowth society, Cattaneo and Vansintjan (2016: 26) point towards a third way of decentralised, commons-based welfare, in contrast to State-run and private welfare.[1] "government policy will need to create

[1] Their thoughts on the matter are worth reprinting at length: "any post- growth economy will be diverse, decentralised, and will shift away from government-controlled or privatised forms of welfare towards a 'third way' of collective wealth creation largely outside of the capitalist 'market', as it is understood today. While in the short term, social safety nets will have to be supported and run by the state, in the long term, the state will need to shift its role from *benevolent patriarch* to *facilitator*. Therefore, the initial funding required to support these social safety nets is substantial, but will eventually level out as types of social services diversify.… It is important to point out that this should not involve the stripping of state assets and responsibility, as happens within neo-liberalism. As the guarantor of individual human rights and a reflection of common interests, the government apparatus will, in fact, retain its accountability towards the population. But in contrast to the highly centralised, inflexible, and often dis- empowering welfare state, a post-growth governance regime would require broad participation and diverse means of achieving social solidarity" (Cattaneo and Vansintjan, 2016: 26, italics in original).

infrastructure that allows for the proliferation of alternative forms of wealth, such as community-based currencies, solidarity economies, neighbourhood-based services like autonomous clinics, childcare collectives and food cooperatives. This will make it increasingly possible for citizens to meet essential needs [...] without relying primarily on state cash transfers" (Cattaneo and Vansintjan, 2016: 21).

In the same spirit, Gesualdi (2009: 22) points to self-organised child care (e.g. local crèche run by seniors) and elderly care (providing domestic help to nearby elders) in Italy. Bakker (2007: 547) mentions voluntary community kitchens in Chile, Bolivia, and Peru during crisis years. Kish and Quilley (2017: 315) describe a self-organised system of mental health provision in Geel (Belgium) where families voluntarily help strangers with mental health issues.

Pearman and Heatley (2014: 144) write that "larger households can cope much more easily with care within the home, as well as reducing social isolation and harmful environmental impact." They also argue that the time rendered available by work time reduction, as well as the reduced geographical dispersal of families (because of relocalisation) can increase household ability for self-organised care. This is also a solution envisioned by Fraser (1994: 613), "self-managed care work activities": "Treating civil society as a site for care work offers a wide range of new possibilities for promoting equal participation in social life, now no longer restricted to formal employment."

For example, Théret (2012) proposes a tax system based on "*monnaie-temps*" (time-money, mt). The government would emit a specific currency to remunerate time spent in activities of public interest and it would accept these tokens for the payment of taxes (one hour would be the equivalent of average hourly wage). The State could require everyone to pay a small portion of their taxes in time-money, with possibility (more or less limited) to let people trade such currency between themselves. (This would allow people with much money and little time to buy time-money from people with much time and little money.) The author imagines that such currency could extend to other existing schemes, for example time banks. This is precisely what proposes Cato (2011: 8 cited in Pearmain and Heatley, 2014: 150): time spent volunteering could be recorded in a time bank. Using the time tokens, people who have volunteered could later pay their time-tax. In the American state of New York, Mayor of New York City Michael Bloomberg created a time bank to make up for a lack of public services where volunteers can earn time dollars by assisting elderlies for small everyday tasks.

Let us take a concrete example. How can a poor municipality finance the building of renewable energy infrastructure? The usual solution would be to borrow from a commercial bank, but there is another option. Douthwaite (2012: 193) proposes to create an alternative currency just for that purpose. The municipality would sell energy vouchers which grant access to a specific number of kWh after the energy plant starts to produce energy. (These are often called *energy-backed currencies* because the value of each token depends on the kWh it gives access to.) This is basically a loan except lenders get repaid in energy services. Even after the energy plant is finished, the municipality can still issue energy-backed notes (denominated in national currency or directly in kWh) which inhabitants can use for other non-related exchanges It would just function like a normal local currency, with the extra safety of knowing that the tokens can always be used to pay energy bills. The same logic can be applied to transport, a community garden, or a water treatment plant.

A local currency can be used to finance welfare at a cheaper cost than using national money. First, because it economises the interest servicing that would have been paid if the money had been borrowed from a commercial bank. And second, because the local currency spreads the payment over time. Let us imagine that a city emits a local currency that it uses to dispense social benefits. The cost in official money (let us say euros) depends of how widespread and active the monetary network is. If the alternative currency goes on circulating without being converted back into euros, the cost for the State is null. This is because it is only as soon as a user wants to convert-out some local currency that the State must surrender actual euros (the alternative currency is nothing but a promise to pay).

Here are three examples of complementary currencies being used to finance welfare initiatives without burdening local government's budget (for more details, see Lietaer et al., 2012: ch.8). What these three initiatives have in common is that they focus directly on the time, resource, and energy needed to satisfy needs, and not on the money.

The *fureai kippu* is a Japanese local currencies created in the 1990s. It is basically a time bank but only used for elderly care. If I am studying in Kobe and unable to take care of my grand-mother in Nagoya, I can just take care of another senior near where I live and earn time-credits that I will then use to pay someone else to look after my grand-mother. This is organised reciprocity outside of the realm of commodities and official money.[1]

In the 1970s, the mayor of the Brazilian city of Curitiba created a local currency scheme in order to solve a problem of garbage accumulating in the streets. Inhabitants could trade collected trash for tokens that could be spent on school expenditure, public transport, and local food. Because the municipality was poor in money, it could have not afforded to pay a firm to pick the trash; but because it was rich in time, it could self-organise this very task.

The *NU-Spaarpas* ran as an experiment by the municipality of Rotterdam during the year 2002-2003. The logic was the following: just like a loyalty card scheme, users would be rewarded in *NU-Spaarpas* for certain green behaviours with points accumulating on a membership card, these being accepted for the payment of public transport or cultural events. The scheme attracted 10,000 users and 100 businesses but what terminated the year after the election of a new municipal government.

But let us be careful. I hear Ott's (2012: 575) worry that "hardly anybody would like to replace the modern welfare state by trust in solidarities of neighbourhoods or networks of friends." The decentralisation of public services must not generate inequality between the ones living in affluent neighbourhoods and others facing more difficult living conditions; not must it lead to a general "regression of collective solidarity" (Duval, 2013, mt). Another worry concerns gender inequality. In the next controversy, I will argue that the de-commodification that degrowth calls for can be a vector of oppression for women. Indeed, if informal care work today predominantly falls on women, and if post-growth welfare means less formal services, then it is legitimate to worry that women will, again, end up with the lion share of the burden.

Sexist and oppressive? The feminist critique

Bauhardt (2014: 64) sets the tone calling the English and French degrowth literature "completely gender blind – so far." Others accuse degrowth of ignoring issues of "gender,

[1] In the same spirit, Ruzzene (2015) proposes to use time-based credits to organise the pension system.

gender relations, women or feminism" (Löw, 2015: 5), "sex and class body-politics of social reproduction" (Picchio, 2015: 210), and "women, gender, intersectionality, Indigenous peoples, [and] colonialism" (Perkins, 2019: 185). In their review of the degrowth and ecological economics literature, Hanaček et al. (2020) only find 4 articles out of 109 publications dealing with issues related to "feminisms, gender, and women," concluding that "the study of gender relations is still a marginal topic within the literature on the Ecological Economics of Degrowth" (ibid. 3).

Gregoratti and Raphael (2019: 84) show how "the intellectual history of degrowth continues to be narrated turning a blind eye to eco-feminist authors," ignoring, for example, the contribution of Maria Mies and Marilyn Waring – Chapter 5 of the present dissertation being a perfect example of this gender-bias (even though I do use eco-feminist's work, including the one of Mies and Waring, elsewhere in the thesis). "Many degrowth authors seem blind to the effects of patriarchy, gender violence, colonialism, and wage discrimination in forcing certain members of humanity, and 'nature' […] to continue providing other members of humanity the means to support their well-being" (Perkins, 2019: 185).

Because degrowth proposes a refusal of work, fewer technological appliances, and a resurgence of unregulated, vernacular activities, certain feminist scholars argue that it may potentially reinforce gender inequalities. "What will induce the 'new forms of economic and social organization' (Bonaiuti, 2012) to be good from an ecofeminist perspective?" asks Perkins (2019: 186). In only a few paragraphs, Latouche (2011a, mt) tries to reassure readers writing that degrowth is not "a return to a communitarian patriarchal age." But the feminist critique is not only about gender, and scholars also point to the possibly of degrowth fostering other forms of oppression based on nationality, race, or class.

Convivial sexism

The principle of conviviality problematises the use of certain technological artefacts such as cars, clothes dryers, microwaves and freezers, or vacuums. For instance, in the article coining the term "sustainable degrowth," Clémentin and Cheynet (2002a: 6, mt) talk of "replacing the fridge by a cold room [and] vacuums with brooms and mops." Same for Alexander (2017: 172): "In a degrowth economy, many technological conveniences we know today may largely disappear. Microwaves, vacuum cleaners, dishwashers, electronic kitchen gadgets, etc."

Without those tools to facilitate care work, which is still predominantly performed by women, some fear that the additional toil will inequitably fall on women (e.g. walking children to school instead of driving them, handwashing clothes and hanging it on a line, longer hours of cooking to substitute pre-made food). Same case for alternative consumption practices that may be environmentally desirable but involve extra time or/and effort (e.g. growing food, fixing objects, organising the management of commons).

> "The central criticism of consumption as a motor of growth neglects the fact that consumption decisions, as well as consumption compulsions, are gendered. […] For example, nutrition based on a diet of locally grown, organic food will entail different, more time-intensive cooking methods. Using public transport instead of individual cars means someone will be carrying heavy loads and typically implies time-consuming mobility patterns" (Bauhardt, 2014: 65);

> "I don't think many degrowthers realize how heavy a burden care work will be without domestic equipment – cookers, washing machines, hot water, vacuum cleaners, etc. It is not an argument to keep them, but domestic work is going to take a lot of the day. In most communities, this falls to women. I am troubled by how much attention in the literature is given to welcoming increased leisure time by male authors" (Mellor in Kallis, 2017: 148).

Another argument is Kish and Quilley (2017: 314) who allude to "the potential loss of sophisticated birth control technologies" that is likely to occur with a shrinkage of a society's biophysical throughput. The French Christian current of degrowth would easily retort that these techniques are undesirable anyway and should be replaced with natural contraceptives that are more fitted to the emancipation of women, but I would personally take a more nuanced stance just saying that the all-or-nothing understanding of conviviality that Kish and Quilley (2017) ascribes to degrowth is one of the misunderstandings I have addressed in the previous part.

Coming back to the broader possibility of convivial sexism, Kallis (2018: 121) admits this is a risk: "if exosomatic energy use was to decline and work was decommodified, the burden of new work patterns would fall disproportionately on women," before urging for revaluing and redistributing care work.[1] If doing away with the throwaway culture means mending clothes and fixing tools instead of buying new ones, it is legitimate to worry about who should end up doing the work – that work which is most always pushed onto women. If the abandonment of time-saving tools does not come together with a redistribution of care work, then the simpler life of degrowth will be relatively more complicated for women.

This argument about sexism can be extended to broader categories of oppression. This was Bookchin's critique of J. Ellul and F.G. Juenger[2] in *Post-scarcity Anarchism* (1971c: 89): "any attempt to equalize the wealth of society at a low level of technological development would not have eliminated want, but would have merely made it into a general feature of society as a whole, thereby recreating all the conditions for a new struggle over the material things of life, for new forms of property, and eventually for a new system of class domination." Basically, the issue of gender inequality is not technological but political. If certain tools can slightly improve the conditions of women, one should not expect the robot vacuum to vanquish patriarchy.

And yet, one should not rush too fast in equating modern appliances with free time. Cowan (1974) argues that the washing machine resulted in heightened standards of cleanliness, which in the ends kept the volume of housework stable. Besides, one should also take into account the time spent building the washing machine, starting with the extraction of the necessary resources, along with the time effort spent by those putting it together, and also including the potential time negative externality generated by the production process. In the end, and applying the concept of *general speed* that Illich (1974) used to argue the car was not saving but costing time, it is not clear whether modern appliances save time or not.

This then becomes a class issue where the rich save time by using a washing machine at the expense of the poor wasting time producing the machine. But again, because patriarchy is not a matter of tools, women are likely to be the ones worse off. True women are often the

[1] This concern was also explicitly addressed in the 2019 Oslo Architecture Triennale where the collective Edit designed a vacuum cleaner that require three people to operate, pointing to the need to redistribute household work between genders (see Block, 2019).
[2] F.G. Juenger, *The Failure of Technology* (1956) and J. Ellul, *The Technological Society* (1965).

one operating the washing machine, but they are also extracting resources and producing the machine (and if they are not, they do spend time supporting the ability of male workers to do so by caring for them).

Deseconomisation and the return of oppression

Degrowth often counter poses a malevolent economy to a benevolent society, assuming that every act of de-economisation goes in the direction of less exploitation and oppression. Certain feminists like Fraser (2012) disagree and argue that the economy can sometimes be an emancipatory institution. The extension of the realm of market exchange can occur at the expense of hierarchies and exclusion, for example feudalism and patriarchy. Commenting on Polanyi (1944), she writes: "what commodification erodes is not always worth defending, and that marketization can actually foster emancipation by weakening traditional supports for domination" (Fraser, 2012: 8).[1]

Same argument for Duval (2013) who fears degrowth entails a loss of personal autonomy and individual liberty granted by the market economy, especially for women. In societies where patriarchy is still culturally prevalent (that is most societies in the world), a return to the political might backfire in reviving undesirable gender roles among other forms of oppression. Criticising Taibo (2009), Antithesi (2017) writes about degrowth engaging in "the idealization of the patriarchal pre-capitalist relations of indigenous communities." Clerc (2008: 102) finds degrowth "undesirable" for its appeal to a village-centred life, which would, as he argues, jeopardise the freedom that individuals gained through the anonymity of cities.

> "one can denounce an idealisation of the conviviality [here used in the sense of joviality] and well-being of traditional societies, especially when it comes to the benefits of local solidarity. Although more humane in appearance, these relations of solidarity are in reality, not universally present, less protective over the weakest, and not compatible with individual freedom" (Montel, 2017: 61, mt);
>
> "Any paradigmatic shift towards a low-energy, more localized society, involving a contraction in the scale and scope of market society, along with a reduction in the capa- cities of the state, would pose real problems for women's emancipation, at least as it has developed over the last forty years. This is in part because the most successful thrust of mainstream feminism has been organised primarily around equal access to the capitalist labour market, with state interventions in areas such as childcare to facilitate this. It seems possible, and perhaps even probable, that such a society would see a revival of 'natural' gender divisions of labour as a result of the contingencies of local production and familial reproduction…" (Kish and Quilley, 2017: 314);
>
> "Paech's proposal says nothing about the distribution of work among genders and about which sectors would remain commodified. In the strive for greater gender equality, it is desirable that care work is distributed equitably between the sexes." (Eicker and Keil, 2017);

[1] Here is a longer quotation from Fraser (2012: 7): "Preoccupied exclusively with the corrosive effects of commodification *upon* communities, it neglects injustices *within* communities, including those, such as slavery feudalism, and patriarchy, that depend on social constructions of labor, land, and money precisely as *non*-commodities. Demonizing marketization, the book [Polanyi's *The Great Transformation*, 1944] tends to idealize social protection, as it fails to note that protections have often served to entrench hierarchies and exclusions. Counterpoising a 'bad economy' to a 'good society,' *The Great Transformation* flirts with a communitarianism and is insufficiently sensitive to domination" (Fraser, 2012: 5); "social constructions of labor, land, and money have typically encoded forms of domination, many of which long predate their commodification – witness feudalism, slavert, and patriarchy, all of which, as I noted before, depend on constructions of labor, land, and money precisely as non-commodities."

> "The nonemployed wife who knows she can support herself and her children outside of her marriage has more leverage within it; her 'voice' is enhanced as her possibilities of 'exit' increase. The same holds for the low-paid nursing home attendant in relation to her boss" (Fraser, 1994: 597);
>
> [An Indian student from Calcutta, participant of the 2020 degrowth Summer school organised by ICTA] "Where I come from, people want to break away from community to seek personal freedom. Community is the place of family repression and honor killings. I've heard all my life about the need for personal limits and personal sacrifice. It feels like a regression to go back to that world" (cited in Timms, 2020).

Dengler and Seebacher (2019: 250) point to the specific example of Buurtzor, a 10,000 people Dutch neighbourhood model of non-commercial care in which 97% of the employees are women. In defence of what they term a "decolonial feminist degrowth approach," they warn: "In a socially just degrowth society, the realm of reproduction must not be feminized, racialized or devalued" (ibid. 250). Another example is mutual credit systems and time banks, where in France more than 70% of participants are women (Blanc, 2018: ch.3). Studiying timebanking in New Zealand, McGuirk (2017: 599) also reports that most coordinators are women, mostly working on an unpaid, volunteer basis.

Others point to a trade-off between sufficiency and autonomy where a lower purchasing power (downshifters) could reduce the ability to escape situations of oppression. Money can be moved easily; land, less so. This argument expresses a legitimate worry. How to run away from someone who abuses you if the only way of providing for your needs is through indivisible property owned together with that person (for example, a vegetable patch that, in a de-commodified society, cannot be sold)?

The FAQ section of the Italian *Associazione per la Decrescita* dedicates a question to this topic, which they express as follows: "In a degrowth society, will domestic work and care still be predominantly performed by women?" (Decrescita, 2019, mt). Their answer argues that a constitutive goal of degrowth is to overcome any form of gender-based domination, and that this requires a redistribution of care work from women to men. When reflecting on the potential commodification or monetary remuneration of care work, they argue that, instead of attempting to integrate the sphere of reproduction within an economy with an incompatible logic, it is rather the for-profit economy that should be transformed as to fit the logic of care (this is precisely the argument I made in Chapter 6: *Care*).

But easier said than done. If patriarchy is a structural feature of the societies degrowth aspires to transform, then de-economisation should be scrutinised from a gender lens as to ensure that it leaves women better-off. Writing about this controversy, I realise that I may have overlooked these issues in Chapter 6. While the values of *sufficiency* and *care* could be used to support the arguments raised in this feminist critique, I realise now that I have not gone the extra length to make that link clear.

With no expertise in this area I hesitate to venture a conclusion, but my gut feeling is that feminism is definitely becoming a topic within degrowth. This is perhaps best exemplified with the creation of the "Feminists and Degrowth Alliance (FaDA) at the 2016 degrowth conference. (One can also point to the entry on "feminist economies" in *Degrowth: A vocabulary for a new era*.) Authors such as Dangler and Strunk (2017: 14) see degrowth and feminism or sisters in

arms: "not only can a feminist perspective on care pave the way for degrowth, but also degrowth can pave the way for a caring economy."

Similar stance for Löw (2015) who argue that degrowth and postcolonial feminism must at least learn from each other, and even form a broader coalition. Hanaček et al. (2020: 10) writes that degrowth must "not only have a strong engagement with feminist debates, but also reflect on the gendered genealogies of knowledge produced and reproduced." Akbulut et al. (2019: 7) and Bendix (2017: 5) point to eco-feminism as a bridge between degrowth and feminism. Belmallem (2019: 6, mt) says that "we must find a way to incorporate feminism to the degrowth discourse still in construction. In the same way that degrowth is anti-capitalist and anti-productivist, it is [also] feminist."

In a similar vein, Barca (2019: 179) calls for a political economy of degrowth that would not only acknowledge the sexual division of labour as a key aspect of the current crisis but also recognise the value of the eco-feminist lens as an alternative to growthism. For D'Alisa (2019), degrowth is "anti-patriarchal" envisioning "as society with different gender relations and roles." Also Latouche (2019a: 118, mt): "degrowth cares to be feminist, in reaction to the often criticised male chauvinism of the capitalist and growth society." In the issue of June-July 2019, the Swiss degrowth magazine *Moins!* titled "the power of women" with an article by Pérez Orozco (2019) arguing that degrowth and feminist movements are allies. As summarised by Eicker and Keil (2017), the goal should be "(De)growing towards gender equality."

Too little too late? The environmentalist critique

Since the birth of the environmental movement, there has always existed a clash of interests between environmentalists and adherents of direct democracy. In the context of degrowth, this dispute involves environmentally-minded critics of growth who argue that degrowth is a biophysical necessity[1] no matter what, and defenders of radical democracy who argue that it must remain a choice offered to people, again, no matter what.[2]

On the environmentalist side: "Ecology is not an ideal, but a necessity" (mt) writes Bruno Clémentin, then president of the *Institute of Social and Economic Studies for a Sustainable Degrowth*, during the introduction speech of the 2003 Lyon symposium. "We are not anymore in the dream of a European or world society that would gradually become sustainable, we are against a countdown to chaos and horror. Degrowth is not an objective, it is the journey, it is our destiny" (Cochet, 2010: 14, mt). "Degrowth is not an ideal; it is an absolute necessity" (Tertrais, 2006, mt). "[D]egrowth is going to happen, no matter what we do. This is because of the close correlation between fossil fuel use and economic growth. […] Degrowth has chosen us, not the other way around" (Whyte, 2019).

And on the direct democracy side: "degrowth is not defended as a necessity but as a political choice," writes Fournier (2008: 536-38), "the degrowth movement is clear that it would stand for democracy before ecology." For Ariès (2007a: 277, mt), "we are not advocating for degrowth because it is no longer possible to grow. Even, and especially, if an infinite growth was possible, it would be for us one more reason to refuse it in order to simply be humans."

[1] This attitude is what prompts Reichel (2015b) to write that "people within the degrowth community should be aware that they often sound as if 'there is no alternative.' "

[2] Bookchin (1974: 167) is the perfect example of this approach: "There can be no separation of the revolutionary process from the revolutionary goal. A society based on self-administration must be achieved by means of self-administration."

Similar argument for Kallis and Martinez-Alier (2010: 1573): "democracy should not be suspended under any circumstance, even for the sake of perceived environmental problems of survival. There is no choice between the environment and democracy; sustainable degrowth should be a democratic process of transition or nothing at all."

When environmentalists warn against a situation where a community would knowingly decide to ignore unsustainable practices in order to keep growing as usual,[1] democrats retort that in the right cultural conditions, no community would do such a choice. They would also say that because cultural conditions are not ready for degrowth, and because democracy takes time, change must wait. Which in the end prompts their adversary to answer with something in the line of Paech's (2012: 8): "the dizzying heights of towering affluence are like a house of cards […] the higher the level, the further the fall if everything collapses."

Laurut (2019: 177) goes as far as accusing degrowthers of ignoring popular referendums knowing that their idea would fail to gather the support of the majority. Concerned environmentalists say that "without a transition that is at least partly involuntary it is highly unlikely that sufficient people will voluntarily adjust their lifestyles" (Davey in Kallis, 2017: 187). And democrats answer the now classic: "degrowth society will be democratic or will not be" (Ariès, 2005: 113, mt). And this where the discussion usually ends: direct democracy in a Mad Max environment or technocracy in an ecological Eden, autonomy versus sustainability.

At first sight, this controversy looks like a simple misconception. The degrowth-is-a-necessity argument only understands the term as a synonym for decline (type-1 in the typology of Chapter 5) whereas the other side has a more demanding reading of degrowth (a decline of environmental pressures, yes, but a democratic one). Following how I defined degrowth in this thesis, only the second account understands degrowth accurately. Controversy solved?

Not really; this controversy touches on a deeper issue. The central question is the following: What if people decide they do not want degrowth? Latouche (2005b) goes the same direction in his debate with Fotopoulos (2005a) in criticising the "magic wand of direct democracy" that Fotopoulos calls for to put an end to all social and environmental injustices. Indeed, "how can we be sure that a true, Castoriadian democracy will choose a frugal, degrowth mode?" (Asara et al., 2013: 235). Would degrowth still hold to *autonomy* as a value if it meant *sufficiency* and *care* would be compromised?

This has been the critique of Italian sociologist Onofrio Romano for more than a decade. Romano (2008: 118; 2012: 584) criticises the "ontology of spontaneity" present in the degrowth discourse: "As in the myth of the *bon sauvage* by Rousseau, the assumption is that 'letting men be,' in a regime of perfect democratic immanence, they will always pursue the 'good' and the 'fair.' " The author (writing in his book *Towards a Society of Degrowth*, 2019: ch.3) goes as far as arguing that degrowth is a threat to democracy, "a remedy worse than the disease" (ibid. 58). The Italian sociologist argues that degrowth is stuck in the same "legein paradox" (*legein* meaning "to deliberate" in Greek) than growth and is as restraining in terms of autonomy, even though the criteria of success may have changed (e.g. not GDP up but ecological footprint down). Essentially, his argument is that a democratic society should have no pre-determined limits, otherwise it would not be democratic anymore. For example, he points to Latouche's

[1] A good example is Hornborg (2019c: 83, italics in original): "It thus seems unlikely that a policy of *intentional* degrowth will be compatible with democracy in the foreseeable future. Unfortunately, unless pressed by severe and acute crisis, a democracy cannot be expected to *decide* to degrow."

threshold of 30,000 inhabitants for a city (the number is actually from Takis Fotopoulos) and argues that: "the local Utopia at the center of the degrowth proposal is unbearable to the same idea of democracy that it purports to be based upon" (Romano, 2012: 583).[1]

Same argument for Strand et al. (2018: 1852) who find degrowth "incongruent with a true liberal democracy" if it means that citizens must "accept the facts and values of the systems sciences and the ecological movement."[2] Likewise, Riesel (2008: 73) criticises degrowth for its "thermodynamic pre-determinism," which overrides democratic concerns. (The risk of necessity-based or science-based technocracy was already a concern for André Gorz in the 1990s.)[3]

In the thesis, my solution to this problem was to invoke a plurality of values: not autonomy alone, but autonomy *with* sufficiency and care. But this does not bring us very far; especially because I have argued that autonomy has prevalence over the two other values.[4] Again: What if people autonomously decide to appropriate and exploit? One could say that if all stakeholders were indeed included into the decision-making process, collective autonomy could not lead to oppression because anybody oppressed would oppose that decision. Arnsperger and Bourg (2017, mt) speak of "ecological citizenship" to claim that the concept of democracy is un-detachable from the one of ecological sustainability. The idea of an ecological democracy, they argue, is a pleonasm because any community that grants unsustainable drawing rights to some of its members or the whole of itself will necessarily encroach on the ability of others to do the same.

True in theory, but hardly operational in practice because never is everyone included in the discussion. And even though they were, what if they remained a minority? Here radical democrats would maybe say that direct democracy should not rely on majority but consensus; fine, but how to fairly represent the interest of stakeholders such as future generations and non-humans? Maybe there is no need for that and a slightly more participative democracy could be enough to bring consensus towards the cessation of exploitative activities. Ultimately, the question here is too late and too little for what and for whom?

The crux of this controversy is timing. Because democracy takes time and effort, degrowth is bound to be a slow process of transformation. Romano (2012: 586) captures one aspect of this contradiction: "the need for degrowth is presented as something very urgent, but

[1] "If the demon of democratic autonomy were to be unleashed, it is an illusion to think that it would be possible to confine it within any natural limits (territorial, moral or even 'thematic'). For example, why would the territorial units remain within the size suggested by degrowthers (thirty thousand people)? Why, if they live in a democratic community, could people not choose to go beyond this threshold? […] Why would a democratic and independent community always choose the highest standards of ecological protection at the expense of other objectives that it could deem as more important?" (Romano, 2019: 56).

[2] "degrowth and other ecological movements may open up for democratic choice on some of the 'how,' but the imaginary of how to arrive and stay at a desirable future is incongruent with a true liberal democracy in which citizens may hold any set of substantive values. The realization of the imagined future depends either on the use of force, or, if by voluntary process, that the citizens somehow come to accept the facts and values of the systems sciences and the ecological movement" (Strand et al., 2018: 1852).

[3] "It is impossible to base politics on a necessity or a science without by the same token denying its specific autonomy, and establishing a 'necessary' or 'scientific' dictatorship, no less totalitarian when it refers to the needs of the ecosystem than when it refers […] to the 'laws of dialectical materialism' " (Gorz, 1993: 60). To this concern, one can quote Ariès (2005: 216, mt): "the only laws that should apply to human society are political laws, not those of the economy, of science, of religion, or of nature" (Ariès, 2005: 216, mt)

[4] Here is how I phrased that point in Chapter 6: "*The order in which I have chosen to present the principles is not random. Autonomy comes first for that it is the ability to define what the good life should be about. Autonomy is almost a meta-value because it determines the substance of the other ones, along with all other social rules derived from it*."

spreading it by an elitist strategy of voluntary simplicity can only be a slow process."[1] Some environmentalists, however, warn about the urgency of the climate crisis and come to question whether there is time to do away with capitalism and the other structures that degrowth criticises. "Climate stabilization needs to happen now. Degrowth cannot happen now. This is why degrowth is not a plan for combatting climate change, not in any immediate or direct sense at least" (Timms, 2020). This leads to the following claim, here voiced by Sansfaçon (2018): "The emergency is here now. Let us postpone revolution for later."

So, on the one hand, yes the no-alternative, degrowth-is-necessary, there-is-no-time arguments are problematic for that they deprive individuals and communities from autonomy. Describing an issue as "urgent" or "necessary" can easily turn into an appeal to the authority of the ones who argue they know what to do, inviting a technocratic treatment of social issues.[2] More problematically, the appeal to urgency, for example recently in the demands of the *Extinction Rebellion* movement to declare "a state of climate emergency," can justify top-down social control and the sidestepping of democratic processes.

But, on the other hand, the environmentalists have a point for there would not be much autonomy left to have in a +3°C world. The usual degrowth answer to such critique is to say that any reformist strategy within a productivist, capitalist, etc. structure is bound to fail. The fact that the it-takes-too-long-to-change-the-system critique was already there in the 1970s and that not much has happened since gives credence to the claim that certain structures must be blocking change. And yet, this might be too quick of an answer; let us dwell on this point for a moment.

A first objection is the following: it is today a lack of democracy that is slowing down actions for environmental justice. Through various forms of political capture, powerful corporations manage to slow down the passing of eco-social policies. Even in the messiest of federation councils, I cannot imagine how regulations such as criminalising planned obsolescence, regulating tax evasions, and taxing speculative financial activities would take more than an afternoon to be voted in. The fact that these changes have not occurred yet is not because democracy is a fundamentally slow process, but rather because such decisions have not been subjected to democratic deliberations.

But here, we are back to the previous problem: there may be limits to how participative democracy can be, and even if it were as participative as it can be, what if the people still say *no*? Additionally, some argue that it takes time to develop the infrastructure for such democratic decision-making. Indeed, a national referendum, city participatory budgeting, consumer councils, and worker cooperatives are not organised in a day, and it is only via a long road of trial and error that such institutions may come to function smoothly. We do not have time, however, would urge a radical environmentalist.

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[1] Here is a longer statement from Romano (2019: 68): "there is an obvious problem with the horizontal building of a horizontal alternative: the need for degrowth is presented as something very urgent, but spreading it by an elitist strategy of voluntary simplicity can only be a slow process, and this is somehow acknowledged by degrowth advocates. It is the least inconsistent to cry for the absolute urgency of degrowth and then choose a path which in itself promises to be long, difficult and uncertain (at best) in its outcome."

[2] For Romano (2012: 583), framing the environmental issue in collapsologist and technical terms (i.e. as an urgent, necessary action whose unfolding can only be informed by experts) "produces a technical bias, inconsistent with the idea of people's collective sovereignty that is at the heart of a real notion of democracy." "[A]fter the experts have defined the problem, it is almost inevitable to ask [them] to take the lead for its resolution" (Romano, 2019: 37).

Radical democrats may argue that institutions can change slowly while biophysical flows drop fast. What if every new large, environment-intensive infrastructure project (e.g. airports, highways, or dams) was evaluated via citizen audits? This would indeed be slow, but with the associated benefit of slowing down the increase of environmental pressures. Let us not forget that the current situation is of an increase in environmental pressures, a situation of economic *growth*. If the goal is to slow down the economy, slow democracy might be perfectly fitted to the task.

Yes, but what about the damage already done that requires active reparation? Trees may need to be replanted today, not in ten years when the local employment council decides it is worthy of the community's time. Following that line of thought, Vendrillon (2009) and Phillips (2015: 325) accuse degrowth of being unable to deal with complex, global problems that would require a highly specialised, technological intervention.[1] And what about all the sectors that must expand and improve in order to substitute for the sectors that should disappear? Solar panels and windmills must replace fossil sources of energy today, not in ten years after a slow, convivial process of innovation and deliberation about which solar panels are most appropriate.

There has to be a shortest and simplest section in every dissertation. This mine. In this controversy, I realise that I have raised more questions that I can personally answer. This is perhaps fitting to the topic at hand: Should I provide an answer once and for all or should this be used to open a democratic discussion? As will be obvious to the reader of this dissertation, I favour the second option.

Nasty, brutish, and short? The cosmopolitan critique

Degrowth aspires to downscale the biophysical metabolism of societies while nurturing certain modern values like democracy, individual freedom, tolerance, among many others. One could say that degrowth wants modernity without the social and ecological exploitation that has been historically associated to it – the Enlightenment without the energy bill.

For Quilley (2011, 2013) and his colleagues (Dobson, 2013; Quilley and Kish, 2017), this is impossible for one comes with the other.[2] Degrowth, they argue, exposes societies to a return of coercion, violence, and domination – a form of "decivilisation" (Quilley, 2013: 278) towards a "low energy communitarianism" (Quilley, 2011: 79). This argument is not completely new for that it had already be made by William Ophuls in *Ecology and the Politics of Scarcity* (1977) and others that Quilley et al. abundantly draw from.[3]

[1] "[in terms of proposals] degrowthers only consider papering over the cracks, which depicts an unfortunately weak ambition. For degrowthers, everything must be small, local, and slow: one must reduce, decline, slow down; one needs micro-societies, small farms, small gardens, small shops, small artisans" (Vendrillon, 2009, mt). "[W]ithdrawing from civilisation would not stop the disaster from arriving. It will require significant ingenuity to engineer a reverse of the processes we have inadvertently set in motion, likely even involving some way to produce a carbon-negative economy for a period. This will involve developing some technologies and processes that we do not really have yet. […] By turning it back on the possibility of such technologies, on the very idea of progress, green anti-modernism actually commits us to catastrophic climate change" (Phillips, 2015: 325).

[2] I should note that it is only since 2013 that Quilley's critique became directed specifically to degrowth (Quilley, 2013; Quilley and Kish, 2017), whereas before it targeted environmentalists in general, albeit with a specific focus on the British Transition Movement. For example, "despite the fact that the term 'décroissance' was formulated in the transition of Georgescu-Roegen's seminal book on the entropic basis for economics, the degrowth literature avoids the very difficult problem of the extent to which this articulation [of citizenship and democracy] is intrinsically dependent on energy throughput" (Quilley, 2013: 277).

[3] This is also the claim of Friedman (2005): "Material progress and moral progress, which have always embodied an optimism about the human enterprise, go together. That's why growth is essential in any society." Along the same line: "Zero growth gave us Genghis Khan and the Middle Ages, conquest and subjugation. It fostered an order in which the only mechanism to get ahead was to plunder one's neighbor. Economic growth opened up a much better alternative: trade. […] In a world economy

Although this argument of degrowth as a civilisation crasher is well-built, I intend to show that it relies on several problematic assumptions, which once refuted, makes the entire critique crumble. (After discussing with Stephen Quilley, I realised I misunderstood parts of his argument. While I have slightly corrected the text, I nonetheless decided to leave it intact in structure on the ground that if I misunderstood their work as such, others might do so as well, and so that specific reading of their work would still be worthwhile to discuss.)

Degrowth as de-civilization?

The cosmopolitan critiques make their case in the following manner. The upsurge in energy and material use of the last three centuries of capitalism have enabled a wider circulation of "goods, people, and information" (which they associate with economic growth) that has itself led to the emergence of a diversity of desirable values[1] now associated with the idea of a liberal society:

> "Just about all of those aspects of modern societies that we most cherish – individualism, social liberalism, tolerance, cosmopolitanism, democracy, complexity – emerged in the wake of capitalism and depend absolutely on the circulation of goods, people and information, and so on energy through" (Quilley, 2011: 76);
>
> "Cosmopolitan diversity is a function of the circulation of goods, people and information, and so the overall scale of the economy. The dynamic, multicultural mosaic and the melting pot of continual migration are bound up with ubiquitous cheap energy with allows for a continual replenishing of the reservoirs of ethnic and culture difference as well as state interventions to smooth over the fracture lines between communities. Any radical reduction in that circulation would tend to reduce diversity and move political and social life towards more communitarian forms" (Quilley, 2013: 279).

This liberal society comes with a specific "thermodynamic price tag" and one cannot expect to maintain it without the energetic power of fossil fuels (Quilley, 2013: 277).[2] "Liberal society […] seems to have a fatal umbilical connection to petro capitalism and economic growth" (Quilley, 2011: 80). "It comes as a package," writes Kish and Quilley (2017: 306), in a "psychological-cultural economic complex" where the "socio-economic and ecological 'bads' " (e.g. social hierarchy and inequality, ecological devastation, (neo)colonial domination) come

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that does not grow, the powerless and vulnerable are the most likely to lose. Imagine 'Blade Runner,' 'Mad Max' and 'The Hunger Games' brought to real life" (Porter, 2015).

[1] Quilley (2011) and Kish and Quilley (2017) describe modern values as such: "democratic pluralism and social liberalism," "individualism, social liberalism, tolerance, cosmopolitanism, democracy, complexity" (Quilley, 2011: 65, 76); "individual human rights, individual special/social mobility, freedom of conscience, sexual orientation, sexual expression and a cultural commitment to cosmopolitan diversity as achievements," "the idea of individual rights, gender rights, disability rights, anti-racism, the concept of the individual, the institution of legal aid, welfare safety nets etc." (Kish and Quilley, 2017: 306, 307). Making the same argument Dobson (2013) calls "cosmopolitanism" the "relatively open, egalitarian, libertarian, and conflict-free" society (ibid. 245), "toleration, 'negative' freedom (in Berlin's sense), formal equality, the rule of law" (ibid. 249), or "the notion that people are bound together by their common humanity, and that it entails duties of care which compete (if not supersede) the duties following from more particularistic identifications with family, race, religion, class and so on" (idid. 247). The more comprehensive definition of what they understand as "progressive modernity" is given as a table of different values relating to economy, polity, society, culture, epistemology, and ontology in Kish and Quilley (2017: 309).

[2] "every social form, process or artefact is associated with an energy signature or 'transformity.' It cannot be assumed that liberal-democratic and cosmopolitan institutions, attitudes and values can be transposed into a societal energy regime 'lower down' the energy hierarchy" (Quilley, 2013: 277).

with the "social, ethico-moral and institutional 'goods' " (e.g. gender equality, disability rights, freedom of sexuality, and anti-racism).

Reduce the consumption of energy and material and you will sap these values by undermining the institutions that sustain them. A significant decrease in throughput would mean a transition from "high energy cosmopolitanism" to an unappealing "low energy communitarianism" (Quilley, 2011: 79).[1] Whereas sustaining the current level of throughput may be unsustainable, shrinking it beyond a certain level[2] is undesirable.

> "Are democracy, freedom, individualism, the liberal rule of law and so on, in some sense dependent on conditions of abundance? If these conditions disappear, can these liberal aspirations/achievements survive?" (Dobson, 2013: 246);
>
> "Looking down from the unstable peak of Mount Impossible, steady-state valley looks safe and attractive. But there is a great deal of evidence that in the long term, smaller-scale societies may be associated not only with less individuation, but less psychological restraint and possibly greater inter-ersonal violence. In the context of severe resource shortages and populations coming down from levels way over local carrying capacities, a shortage also of psychological restraint and cosmopolitan values intimates a future more brutal than bucolic" (Quilley, 2013: 276).

In the same vein, Strunz and Bartkowski (2017: 2) argue that "a radical critique of modernity may entail a rejection of (some) existing institutions of liberal democracy – thereby (and possibly inadvertently) endangering core values of the open society." Although the authors remain vague about which values would degrowth possibly endanger only referring to "free speech, freedom of religion and sexual orientation," one may understand their criticism in the same light of the one of Quilley (2011, 2013), Dobson (2013), and Kish and Quilley (2017).

A response to the cosmopolitan critique

The scale of analysis is inappropriate.

A first problematic aspect is the scale at which Quilley and colleagues take the argument. "Trophic expansion is what *we* do and have always done *as a species*" (Quilley, 2011: 69, italics added); "*As a species* with an evolved propensity for language and culture, it seems that long-term processes of social development and the concomitant process of trophic expansion and ecological domination are an inevitable consequence of '*human nature*' " (ibid. 83, italics added). As I have repeatedly pointed out throughout the thesis, referring to one uniform Humanity obscures power relations and assumes the, indeed unsustainable, culture of a select minority of the world population to be the default mode of human organisation. This specie-

[1] "From Elias there is also a strong case to be made that any significant decline in the overall scale of economy, the intensity and complexity of social life, would be accompanied by a process of 'decivilisation' (Mennell, 1990), a tilting of the I/We balance in favour of the latter, a diminishing of the socialised restraints on impulsive behaviour, greater volatility and quite possibly a marked increase in the level of interpersonal violence" (Quilley, 2013: 278).

[2] "what is the smallest metabolic rate […] and ecological footprint necessary to support, reproduce and/or transform the emancipatory values, psychological profiles, behavioural norms and institutions that emerged in the wake of a globally integrated, cosmopolitan, liberal-democratic, science-based and technologically progressive civilization?" (Kish and Quilley, 2017: 307).

focus comes with its own time-scale (centuries if not millennia),[1] which is inappropriate to deal with the specific situation that characterises the 21st century.

Institutions do not only have ecological costs but also ecological benefits

At the core of Quilley et al.'s thinking is the assumption that the "process of civilization is a necessary correlate of the 'expanding anthroposphere' " (Quilley, 2011: 68).[2] So perhaps it is true that the development of a cultural institution initially requires a material surplus, that is enough food, shelter, and so on as to be able to engage in non-subsistence activities. But once such institution emerges, it does not only carry an ecological cost (more throughput), but also can be used for ecological benefits (e.g. language to organised more efficiently, spirituality to prevent degradation, politics to inhibit exploitation).

At this stage, the balance might be positive: time and energy spent to create an institution (e.g. the setting of UNESCO world heritage list), which then allows a decrease in throughput through social organisation (the protection of world heritage sites). To be clear: I am not making a case for an unbounded rise in social complexity. Using Illich's notion of "counter-productivity," I am merely pointing out that there is a sweet spot in terms of scale at which institutions are most effective in fulfilling their function (one of these possible functions can be to guarantee ecological sustainability).

Economic growth with rose-tinted glasses

From a degrowth perspective, the greatest weakness in Quilley et al.'s argument is their reductionist definition of economic growth. Quilley (2011: 74) defines economic growth as "the increase in the circulation of goods, people, and information," which after reading Chapter 1, readers should understand is a simplification that borders inaccuracy.

Let us first of all remark that not all such *circulation* leads to the desirable values Quilley assigns to that process. A foreign military intervention abroad causes an "increase in the circulation of goods, people, and information" at home with indeed an increase in throughput but not necessarily with a blossoming of desirable cosmopolitan values; the commercialisation of nefarious financial products such as a credit default swaps on sovereign debt is a form of economic growth that encourages predatory relations. The assumption that "globalism" ("disembedded markets" and "global supply chains") strengthens cosmopolitanism has been severely criticised by several decades of post-development and anti-globalisation scholarship. From the latter perspectives, it is precisely this economic globalism that enables exploitation and violence, and the conservation of desirable social values implies a shortening of supply chains (re-localisation) as to avoid profit-seeking global corporations to sustain an economic banality of evil.

[1] "The glorious, kaleidoscopic, creative and destructive complexity of human culture may turn out to be the most fleeting and fragile of them all, burning itself out in a cosmic millisecond"; "here in *The Civilizing Process*, processes of individual psychological development, unfolding over decades, are linked to a process of societal formation unfolding over centuries, which is linked to changes in the carbon cycle, atmospheric chemistry and climate regulation playing out over millions of years" (Quilley, 2011: 72 / 74).

[2] The realm of humans (anthroposphere) increases via a process of "trophic expansion," which he defines, using his previous work (Quilley, 2004b), as "the process through which a steadily increasing proportion of the annual productivity of the biosphere is diverted to fund long-term processes of human social development. It is a measure of the relative encroachment of the anthroposphere on the biosphere" (Quilley, 2011: 66).

Note also that goods, people, and information can circulate without being commodified. For instance, one could argue that Wikipedia contributes to increasing tolerance even though it does not contribute to economic growth – even though it does bear a cost in terms of material and energy. If that is so, certain digital commons on the Internet, which degrowthers are not planning to dismantle (contra Tucker, 2019: 12min41), would be good examples of social structures that maintain inter-cultural tolerance at a lower ecological cost than the physical circulation of people around the globe.

Likewise, people engaging in slow travel reap the cosmopolitan benefits of experiencing different cultures while reducing their ecological footprint. Quilley does not go as far as arguing that moving around is good for its own sake. And indeed, one should not romanticise travelling into the monolithic experience of the open-minded, adventurous sailor, learning how to hunt seals with Inuits in the morning, participating in traditional dance in the Swedish midsummer celebrations in the afternoon, and talking about soil fertility among the Tuaregs of Western Sahara in the evening. Not all displacements in space are journeys. Travels where the same lifestyle is practiced for a week-end in a new location (eating McDonald's in Lagos or drinking Starbucks in Hanoi) has little impact on the type of tolerance that safeguards against international conflicts.[1]

Any practice reminiscent of more sustainable pasts is attacked as "politically and socially regressive neo-traditionalism" (Quilley, 2011: 78).[2] This is the far-fetched argument that I have already rebutted in (Chapter 7: Retrograde), arguing that it was possible to bring back agroecology without bringing back feudalism. Same form of all-or-nothing logic is applied to the division of labour with a choice between alienating specialisation with the benefit of individuation and artisanship at the expense of individuality.[3]

Scarcity

The cosmopolitan critique is based on a twofold assumption: there is such thing as absolute scarcity and it necessarily breeds self-interested and conflicts. When it comes to the latter, one could alternatively assume that situations of scarcity foster altruism and not selfishness and that greed and other anti-social attitudes are more prevalent among affluent classes. Then, it could be argued that what generates conflicts are not situations of absolute scarcity but ones where scarcity exists in the midst of abundance. This is a classic degrowth argument: the material cause of interpersonal violence is inequality and not scarcity.

To go further, the modernist critique takes scarcity as granted without acknowledging that scarcity is only the absence of wealth, and that the latter can be defined in manifold

[1] In fact, I would venture in arguing that the globalisation of the capitalist mode of living and its experience by a small class of global travellers can decrease levels of tolerance concerning non-capitalist ways of life, thereby throwing most of the planet into a marginal category made of the backward peasants one would not want to cross path with during a holiday.

[2] "with regard to the long march of political and social enfranchisement, such a neo-traditionalism would be politically and socially regressive. Traditionary agrarian society, with more and possibly more people working on the land, implies a world of landowners and serfs, acriptive social identities and lives determined by the circumstances of one's birth – class, gender, religion, ethnicity and caste" (Quilley, 2011: 78).

[3] "Any contraction of the division of labour in favour of a smaller scale, re-localised, less urbanised form of society, would have long-term consequences for the personality structure. With the loss of complexity, the steady-state society would also lose the over-bearing, self-sufficient, highly creative, and often mentally fragile sense of self that defines the modern Ego. It would recover a more muted individuality much more immersed in the binding, inter-woven sense of 'us' " (Quilley, 2013: 273-74).

manner.[1] Degrowthers criticise the "myth of scarcity," or the fact that it is the absolute quantity of resources that determines whether there is enough for everyone to live a decent life. The notion of "basic" needs is always relative to how resources are distributed,[2] and "in a society of equals, everyone will have enough" (Kallis, 2017d: 13). (This is the point I have made earlier in Chapter 7: Motivated by scarcity and thus economic.)

Transition Towns are perfect example of low-throughput modernity

While Quilley and his colleagues use the example of the Transition Movement to strengthen their case,[3] I find that it does actually does the precise opposite. I would argue that, Transition Towns embody a particularly strong cosmopolitanism at a lower throughput than other non-transition Western cities. Remembering Quilley's initial set of desirable values, I would not be surprised if empirical research were to show that these are more prevalent among inhabitants of Transition Towns. What the Transition Movement demonstrates is that "more communitarian forms of political life" (Quilley, 2011: 78) must not necessarily come with sectarianism, xenophobia, and intolerance (as I have argued in Chapter 7: Sectarian).

Simplistic understanding of and aspirations for technology

Quilley et al.'s argumentation leads to a call for technological progress.[4] One could start by pointing the the problematic assumption that all technologies are desirable. Furthermore, technology is embroiled within institutions and certain technologies come with associated institutions. I am not convinced that it is solely a matter of social will to use technology "selectively and reflexively" (Quilet, 2011: 80).[5] Instead, certain tools carry with them the impossibility of being controlled democratically (e.g. a nuclear reactor or a spaceship).

Additionally, I find Quilley's promethean vision of humanity engaged in a master and command, hi-tech stewardship of the Earth using specific tools[6] potentially dangerous (for a critique of this approach, see Muraca and Neuber, 2018).[7] What Quilley (2011: 81) wants to

[1] A good example of such apolitical understanding of scarcity is Ophuls and Boyan (1992: 192 cited in Dobson, 2013: 247): "Once relative abundance and wealth of opportunity are no longer available to mitigate the harsh political dynamics of scarcity, the pressures favouring greater inequality, oppression, and conflict will build up, so that the return of scarcity portends the revival of age-old political evils, for our descendants if not for ourselves."

[2] "To live a dignified life and die a dignified death, the average person mobilizes energy and resources unthinkable even to royals by bygone eras. But this does not eliminate relative poverty. Having your parent die because you could not pay for an expensive treatment that a rich person can afford is as real a suffering and sense of poverty as it gets, and it is no consolation that a King 300 years ago would die from an affliction even more basic. If you parent, however, dies from a disease for which there is no cure, you will accept it no matter the pain, as part of life" (Kallis, 2017d: 12).

[3] "the Transition Network remains obdurately disinclined to focus on the problem of violence. This is surprising. The re-emergence of famine in Western countries combined with a failure of state institutions would certainly result in appalling violence between individuals and communities. This problem would be especially acute in a densely populated country like the UK, which is so dependent on imported food. In any collapse scenario, it is difficult to see how the denizens of Totnes might protect their newly planted nut trees. But at the same time it is impossible to imagine that resource shortages on the scale anticipated by the peak oil and Transition movements would not result in geopolitical violence and regional and even global wars" (Quilley, 2011: 77).

[4] "Only a further development of civilization, enhanced technological capabilities and greater scientific understanding of Gaian physiology and humanity's place within it, would make it possible to curb and channel this propensity for ecological disruption" (Quilley, 2011: 81).

[5] "In the long term, our future and that of the planet will depend on our ability to use technology selectively and reflexively, in such a way as to leave Gaian regulatory mechanisms undisturbed" (Quilley, 2011: 80).

[6] "vertical farming, artificial photosynthesis, molecular engineering, horticultural and ecological engineering, autotrophic urban systems" (Quilley, 2011: 82).

[7] "Autotrophic, self-provisioning eco-cities would release large areas of the Earth's surface from the ecological tyranny of agriculture, re-invigorating the self-regulatory Gaian physiology of the Earth. In such a scenario, humanity would become a

achieve through technological progress is the ecomodernist dream of what he calls "a technologically-mediated process of trophic detachment."[1] I have shown in Chapter 2 how this ontology of detachment is, besides being unrealistic in biophysical terms, not an adequate framing to discuss issues of social-ecological justice.

Will a degrowth future be brutal or bucolic? The cosmopolitan critique should not be ignored for that it points to a crucial question: If modern values come as a tightly interconnected bundle (tolerance, individualism, freedom of speech, rule of law, egalitarianism), is there a risk that opposing certain of these values[2] would jeopardise others?

To conclude, let us return to Quilley's (2011: 80, italics added) question: "Liberal society, based on a respect for the individual, on human rights, on social tolerance, seems to have a fatal umbilical connection to petro capitalism and economic growth. *Is there any alternative?*" What I have argued in this part is that degrowth was not only such "alternative modernity for the Anthropocene" (Kish and Quilley, 2017: 309), but also a more desirable one than the promethean, hi-tech stewardship proposed by the authors. Let us come back to a classic title in the degrowth literature (e.g. Ariès, 2005; Michéa, 2016): "degrowth or barbary." Although the specific forms a low-resource cosmopolitanism may take is left to be invented,[3] I am unconvinced there is anything biophysically pre-determined about it, and see no reasons why the shine of the enlightenment could no run on renewables.[4]

Universal? The global South critique

During the Doha Debate on capitalism (see Hickel, 2019f: 22min44), Ameenah Gurib, former president of Mauritius was asked whether she would have hired degrowther Jason Hickel during her presidency. Her answer was an unequivocal "no." It is economic growth, she reasoned, that eradicated poverty in her country, implying that degrowth is of no relevance for Mauritius, a country with a median annual income per capita under 4,000 USD.

Similar scepticism for Gregoratti and Raphael (2019: 93) who provocatively ask what would degrowth mean "to the insecure livelihoods of sex workers, chambermaids, and handicraft and migrant workers in crisis-ridden Samoa?" For Harangozo et al. (2018: 179), degrowth is "an attractive alternative only for individuals of wealthy countries and is thus less generalizable and hardly applicable to the rest of the world." "The degrowth movement," Perkins (2019: 184) writes, "sometimes under-emphasizes equity and the unfair impacts of shrinking GDP on particular people and geographic areas." For Kothari (2016), "a blanket

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part of a new sentient, self-aware, reflexive organ regulating the biosphere. In short, one future and possibly the only future for civilization is to function as the mind for a planetary-wide super-organism called the Earth" (Quilley, 2011: 84).

[1] "a high-tech, compact civilization' emerging from the collapse of twenty-first century global society and organized on the basis of a kind of trophic detachment" (Quilley, 2011: 81).

[2] Degrowth remains critical towards certain values that the modernists would want to keep: for example, the "emancipatory values" that underlines an illusory detachment of culture from nature, the "psychological profiles and behavioural norms and institutions" associated with consumerism, productivism, and globalism, or the cultural inclination to be "technologically progressive" without further discrimination regarding what type of technology is being developed.

[3] I am sceptical towards Quilley's (2011) claim that because there has never been a low-resource, low-energy cosmopolitanism therefore there will never be one. As I showed elsewhere, this is a common reactionary response used for example by degrowthers to discredit the decoupling hypothesis or by pro-growth advocates to discredit degrowth.

[4] And in the end, if that is not enough to convince, it might be pleasing to think that, unlike the growth society that leaves behind itself closed doors in the form of irreversible environmental breakdowns, the choice of degrowth will always be reversible.

proposal for degrowth is unlikely to be appropriate or acceptable within the Global South for whom deprivations of basic needs is a reality." The ambiguity revolves around one important question: Where in the world should degrowth apply?

On that issue, degrowth scholars have not written much – even though the use of the term outside of the Western world is gathering momentum.[1] In their review of the degrowth literature, Gerber and Raina (2018: 353) lament that "growth-critical approaches have remained so far quite fragmented and Western-centric, with few discussions about their applicability to the global South." And indeed, most degrowth authors brush off the question by saying that degrowth only targets the global North.[2] "Is degrowth applicable everywhere on the planet?" asks a journalist to French degrowther Vincent Cheynet. "Is a diet applicable for everybody?" replies Cheynet (2005c, mt). And of course, these authors are correct in pointing that countries who are today consuming more than their fair share of material and energy should consume less. This is the material aspect of degrowth (the type-1, degrowth-as-decline), which indeed makes little sense to places where needs are unmet. And yet, degrowth is more than a biophysical diet.

Serge Latouche is one of the few to dare writing about degrowth in a non-Western context,[3] arguing that degrowth applies to both the global North and the global South (e.g. Latouche, 2006: ch.10).[4] In fact, Latouche (e.g. 2019: 69-70; 2019b) likes to tell the story of how the project of degrowth originally came from Africa, where during his field work on informal economies in Congo, he realised that there was an alternative to the Northern development model.[5]

Latouche (2019a: 70, mt) writes: "the philosophy of degrowth concerns Southern societies because, even though they are the victims of the international division of labour and globalisation, they are engaged in the construction of growth economies."[6] In his 2008 book

[1] Several authors have brought the concept outside of the Western world, including China (Xue et al., 2012, Alcock, 2019), Cuba (Boillat et al., 2012; Borrowy, 2013), Turkey (Akbulut and Adaman, 2013; Akbulut, 2019), Peru (Hollender, 2015; Hirsch, 2017), South Korea (Gunderson and Yun, 2017), Romania and Bulgaria (Velicu, 2019), the Maldives (Hirsch, 2017), Sub-Saharan Africa (Qafa, 2017), Puerto Rico (Assadourian, 2017), Madagascar (Gezon, 2017), the Faroe Islands (Bogadóttir and Sharohamar Olsen, 2017), Bhutan (Verma, 2017; Gerber and Raina, 2018), Brazil (DeVore, 2017; Milanez, 2019), Ecuador (Chassagne and Everingham, 2019), Mexico (Otto, 2017; Nirmal and Rocheleau, 2019), and India (Gerber and Raina, 2018; Pansera and Owen, 2018; Nirmal and Rocheleau, 2019). See also Gabriel et al. (2019) for a study of "growth-averse enterprises" in 23 countries in the global South.

[2] For example: "Degrowth is a movement explicitly focused on the highly industrialised countries of the Global North, even though social movements from the Global South are important allies and partners" (Burkhart et al., 2016: 2); "degrowth is explicitly a proposal *from* and *for* the global North. It rejects the idea of a universal societal path for all regions and aims at increasing the ecological space left for poor economies to develop independently of the growth imperative" (Muraca and Schmelzer, 2017: 176); "In the immediate future reducing demand in this way applies only to the rich world – the global North (and not necessarily to all of that); one of the justifications is to free up some ecological space to permit development-through-growth to proceed for a short time in the global South" (Gough, 2017: 171); "The objective of degrowth is to scale down the material and energy throughput of the global economy, focusing on high-income nations with high levels of per capita consumption" (Hickel, 2019b: 56-57).

[3] I say "dare" here because degrowth is often misunderstood as a Northern imposition of consumption reductions on poorer countries. To read Latouche on this issue, the chapter *Will the South be entitled to its degrowth?* (Latouche, 2006, mt), a full book on degrowth in Africa (Latouche, 2008), as well as one of the controversy treated in Latouche (2011a).

[4] The FAQ section of the Italian *Associazione per la Decrescita* drafts several proposals for degrowth in the global South: replace agriculture for exportation by crops for local food consumption, stop using pesticides, a return to traditional seeds, moratoria on the selling of land to rich foreigners, commitments to stop extraction financed by countries importing the natural resource (like in Ecuador), and a renegotiation of international agreements in favour of the poorest countries (Decrescita, 2019).

[5] "Paradoxally, the project of degrowth was born in the South or about the South, and particularly about Africa" (Latouche, 2008: 49-50, mt).

[6] Income-poor countries should "avoid going through the industrial age to directly reach a 'post-industrial equilibrium' in a post-capitalist society" (Latouche, 2006, mt), using the only lesson that the North can give to the South, which is that the growthist society leads to a dead end (Ariès, 2005: 22).

Entre mondialisation et décroissance : L'autre Afrique (Between globalisation and degrowth: The other Africa, mt), he adds: "our project of construction, in North and South alike, of convivial, autonomous, and frugal societies implies to speak of an 'a-growth.' […] It necessarily means to escape growth and with it, development." Whereas the first quotation emphasises degrowth as a revolutionary project (type-2, degrowth-as-emancipation), the second one stresses its utopian aspect (type-3, degrowth-as-destination). Here the environmental aspect of degrowth is only peripheral to the objectives of emancipating from a hegemonic model of social organisation as to be able to regain autonomy and agency over the definition of what constitutes the Good Life.

More precisely, he proposes a strategy made of six "Rs" precisely tailored to the global South (e.g. Latouche, 2019a: 71; Latouche, 2006: ch.10). *Rupture* the economic and cultural dependence with the North,[1] which means not talking about degrowth, but rather using local cosmologies such as *buen vivir* in South America, *ubuntu* in parts of Africa, the Maori "economy of mana" in New Zealand, or *swaraj* in India. *Re-establish* the traditions that were interrupted by colonisation, development, and globalisation. *Regain* one's own cultural identity. *Reintroduce* local products and non-economic practices from the past. *Retrieve* ancestral knowledge and techniques. And *return* the esteem of indigenous people by acknowledging and honouring the climate debt.

In sum, Latouche (2019a: 70, mt) pleads for the global South to *"désenveloppement*" (literally to *unwrap*, but the author uses the word in the sense of liberating oneself from the straight jacket of development). This recalls one of the messages of The Cocoyoc Declaration (1975: 9): "Hands-off. Leave countries to find their own road to a fuller life for their citizens." In a study of anti-mining movements in Romania and Bulgaria, Velicu (2019) show that villagers want to be left alone with their traditional lifestyle rather than "developed." "Degrowth must apply to the South as much as to the North if there is to be any chance to stop Southern societies from rushing up the blind alley of growth economics. Where there is still time, they should aim, not for development, but for disentanglement – removing the obstacles that prevent them from developing differently" (Latouche, 2004b).

Let me illustrate this point with a classic misunderstanding between degrowth-as-decline (for Phillips) and degrowth-as-emancipation/destination (for Latouche). Phillips (2015: 378) severely misreads Latouche when he writes: "Latouche is unapologetic. Guatemala, Somalia and Congo-Brazzaville in his mind are also too advanced," implying mistakenly that degrowth advocates for material downshifting in regions where needs are unmet.

Latouche (2004b) does write that "the creation of a non-growth society is necessary and desirable for both North and South." But his point is subtler than Phillips thinks: "Of course, in the South, the degrowth of ecological footprint (or even of GDP) is neither necessary not desirable, but one should not yet conclude that the establishment or advancement of a growth society is advisable" (Latouche, 2006: 242-43, mt). Latouche's argument is that if one defines degrowth as an autonomous, convivial, activity-centred, equal, ecologically sustainable, cooperation-based, flourishing society, then it is desirable everywhere. Even though one must

[1] "Southern countries need to escape from their economic and culture dependence on the North and rediscover their own histories – interrupted by colonialism, development and globalisation – to establish distinct indigenous cultural identities. […] Insisting on growth in the South, as though it were the only way out of the misery that growth created, can only lead to further westernisation" (Latouche, 2004b).

accept that it will take a variety of forms depending on contexts: "the a-growth society will not be established the same way in Europe, in sub-Saharan Africa or in Latin America, in Texas and in Chiapas, in Senegal and in Portugal" (Latouche, 2018: 282).

A decade later, Kallis (2015c) goes in the same direction: " 'We' need to degrow so that 'Southern' cosmologies and political alternatives closer to the spirit of sufficiency (such as Sumak Kawsay or Ubuntu) can flourish" (this is the *rupture* of Latouche).[1] In the introduction of *Degrowth: A Vocabulary for a New Era*, he writes with his co-authors that degrowth in the North will liberate both "ecological space" and "conceptual space" in the South (Kallis et al., 2015b: 5). And indeed, Southern alternatives exist in the plenty – see *Pluriverse: A Post-Development Dictionary* (2019) for an overview. Elsewhere, Kallis (2018: 180) describes degrowth as a "non-Occidentalist Western theory" that has no ambition of being exported to the rest of the world.[2] It is in fact the opposite: degrowth aims to neutralise a Western worldview that has been – and is being – imposed onto other nations.

> "The concept of degrowth may make sense from a Southern perspective, not as an umbrella term that will encompass the variety of alternatives practices there, but as an attempt to deconstruct and undo in the West a Western imaginary that has been at the heart of colonialism and that domestic elites use in the Global South to justify inequalities and eradicate more egalitarian alternatives" (Demaria et al., 2019: 441).

This aspect is one of the eight objectives Burkhart et al. (2016: 2-3) ascribe to the degrowth movement, namely "freedom from the one-sided Western development paradigm, in order to enable a self-determined shaping of society and a good life in the Global South."[3] Degrowth is therefore the polar opposite of a "neo-colonial doctrine" (contra Bruckner, 2012) that advocates for "blanket de-growth prescriptions" (contra Hollender, 2015: 92); it is not a "global alternative model" (contra Azam, 2004) but the liberation from one.[4]

This is a subtle point. In Chapter 6, I have indeed called the values of degrowth *universal*, and so perhaps I qualify for Nirmal and Rocheleau's (2019: 8 / 7) critique when they argue that "the degrowth imaginary often abstracts and universalizes" and "urge degrowth to stretch beyond its current conceptual limits, shrink its sense of universality, and enter as an equal player in the post-development convergence." My answer to this point is that many of the Southern discourses that one considers allies to degrowth (*buen vivir*, *ubuntu*, *ecoswaraj*, but not only[5]) have values similar to the ones I described in Chapter 6, such as autonomy, self-

[1] In the words of D'Alisa (2019), "to deflate the modern western subject in order to leave ontological and epistemological space to other humanities."

[2] Here is another instance of Kallis (2019b: 1h23min) making the same argument: "Yes, it is Western because we developed, especially in Southern Europe, this idea of degrowth. And we are very cautious with it, so we don't want to expand it or say that this idea of degrowth should apply everywhere, and that it's a model for the world."

[3] This is also the view of the Italian *Associazione per la Decrescita* which argues that "each culture should be able to freely choose its own path of liberation from the Western paradigm of growth" (Decrescita, 2019, mt).

[4] "this ideology of voluntary restriction is inaudible for the Chinese, Indians, and Africans who just after escaping misery are being asked to get back there. Degrowth sounds like what it is: a neo-colonial doctrine that command emerging nations, in the name of the planet's survival, to remain in difficulty" (Bruckner, 2012, mt); "Is this concept [degrowth] enough to theoretically and concretely imagine alternatives? […] Besides, can we, with such a concept encapsulates and adapt to the diversity of situations and alternatives? Are we not, again, locked up into a binary growth/degrowth mode of thinking and in the quest for a global alternative model?" (Azam, 2004: 110).

[5] Beyond those, there are, without doubt, a multitude of ideas and practices that we Northern degrowthers should learn from, for example among native Americans, the Siberian peasantry, Buddhist-inspired communities like Bhutan, or Pacific island tribes like the Mãori and their *kaitiakitanga*.

constraint, sharing and mutual aid, stewardship, and a strong embeddedness of economic affairs in social and moral customs.[1] If anything, this multitude of similar-ideas support the insight that there might something universally wrong about the ideology of growth. (Of course, one should not detach these worldviews from their social-historical contexts. There is little value in deciding whether degrowth is an expression of Gandhian thought in the West or if *economy of permanence* is the Indian version of the American steady-state economy. Although they are at time strikingly similar, they belong to unique cultural contexts and so it would make as little sense for an Indian village to fully embrace *degrowth* as for a Norwegian trader to want nothing but *ubuntu*, or a Belgian municipality to solely seek *buen vivir*.)

Beyond that idea of independence from Western influences, other authors have ascribed more precise objectives to degrowth in a Southern context. Gerber and Raina (2018) propose "seven ways of thinking about post-growth in the Global South."[2] And more recently, Gerber (2019) points to five specific strategies: focus on needs rather than GDP, cancel debt and acknowledge the ecological debt, redistribution within and between countries, stop extractivism, and collectively reflect on what should be considered the good life.

The issue of national debts in former colonies is a good case in point (see, e.g. Hickel, 2017: ch.5). Odious or not, these debts bring with them the enforcement of a commodity-based, growth economy.[3] Even though recipient countries should not be considered eligible to biophysical downshifting, they are concerned by its political dimension, namely the escape from the economy and its way of thinking (here imposed to them via structural adjustment).

The issue of debt is only one of the vestiges of colonialism, and for degrowth to be an emancipatory framework for all and not only for rich whites in the global North, it must take into account discrimination such as racial bias and historical economic inequality (Gilmore, 2013). This is the main point of Nirmal and Rocheleau (2019) when they call for a "decolonial degrowth." Indeed, it is not enough to make room for the South today "as if this were a zero-sum game with no history, no ecological and climate debt and no case for economic reparations and ecological restoration (for colonialism, enslavement, ecocide, wars)" (ibid. 9), one must also account for the room that was not given (or even violently taken) in the past. One practical measure to achieve this is debt cancellation – as proposed by Gerber (2019) in his five degrowth-oriented policy actions applicable to the global South.

Let us take have a look at another dispute. Smith (2018) criticises Hickel (2018) for ignoring the fact that "most economic growth now happens in countries that are relatively poor." The common answer from objectors to growth would be to say that degrowth is not to be applied to such countries, because again, degrowth only targets relatively affluent nations. But this is too quick of an answer.

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[1] Besides, and here I am borrowing a point from Fotopoulos (2007: 4), it is a mistake to condemn all universalist projects alike of "Western ethnocentrism" just because they originated there, as if the West held a monopoly on demands for, in our case, freedom, equity, and solidarity.

[2] (1) Current patterns of growth in the South are unsustainable, (2) post-growth should apply wherever there is a class division, (3) economic growth is not a solution to poverty, (4) the goal should be the satisfaction of needs, (5) the problem is more inequality than lack of growth, (6) post-growth ideas find alliances with various social movements in the global South (environmental justice, indigenous, peasant and artisan, socialist, feminist, and progressive spiritual movements), and (7) post-growth thinking is not an invention of the North.

[3] Hickel (2017: 157) makes that point vivid: "Imagine you walk into Barclays to get a loan for a new busiess. Now imagine that they will lend to you only if you agree to give them complete control over your household, so that if your interest payments don't come in fast enough, they can garnish your wages, liquidate your house and force your children to get jobs."

If degrowth is first and foremost an opposition to the ideology of growth, then, degrowth applies wherever the ideology of growth exists, with different consequences in different contexts.[1] For instance, the goal of abolishing GDP as an indicator of progress is laudable everywhere where the indicator disproportionately drives public policies (Gerber and Raina, 2018: 353), so more urgently in the United States than in Bhutan.

As for the degrowth-as-decline, it only applies to countries whose throughput exceeds their fair share of the global biosphere budget or/and their local environmental carrying capacities. To be more precise: downshifting concerns the global middle and upper classes regardless of where they are in the world (Akbulut et al., 2019: 6; Gerber and Raina, 2018: 3; Demaria et al., 2013: 200; Kothari, 2016). "The emphasis of the degrowth 'movement' on the need to scale down, for instance, can be useful in the context of classes within the South that are over-consuming, or overall for economies in the South that may already be unsustainable in some aspects" (Kothari, 2016).

In the same debate I referenced at the beginning of this controversy, Jason Hickel was then asked what he would have done should he had been part of Ameenah Gurib's government in Mauritius. Hickel (2019f: 24min54) replied:

> "I'm not suggesting that poor countries should stop growing. I think poor countries should continue growing. Of course, the objective should not be growth itself but to grow certain sector of the economy that need to grow for social benefit."

Hickel captures well one of the key tenet of degrowth: degrowth in Mauritius would mean not engaging in the GDP race and directly focusing on the satisfaction of needs. Demaria et al. (2019: 439, italics in original) rephrases the question acknowledging the undesirable effects of economic growth: "rather than asking then *who* should grow and who should degrow, a more instructive question would be *how* growth produces poverty, how people challenge on the ground destructive and extractive processes of growth, and what tentative alternatives do they create along the way."[2]

This being said, the fact remains that most of the degrowth scholarship is indeed from the West.[3] Muradian (2019: 257) calculates that 78% of the authors of the book *Degrowth: A Vocabulary for a New Era* (2015) live in Europe, with only three authors not based in a high-income country. This finding seconds the conclusion of a larger literature review by Weiss and Cattaneo (2017) also showing that degrowth remains largely Western. Nirmal and Rocheleau (2019: 2) regrets that degrowth scholars scarcely engage with "ontological, epistemological, and cultural difference as well as gender, class, ethnic, racial, religious, and colonial

[1] Dale (2019, italics in original) captures it well: "For the rich, *much* less, while for the billions who lack the basics: more good food, better housing, abundant clean water, efficient sanitation, excellent public transport, quality public amenities available freely to all." This is also clearly stated in the Québec *Manifeste pour une décroissance conviviale* (Mongeau et al., 2007, mt): "One should note that the application of these principles means for us a reduction of consumption (and an increase in quality of life!) but would mean something different for Third World countries currently starved by the production and consumption patterns of so-called developed societies, namely an improved access to goods and services."

[2] This comment from Demaria et al. (2019: 439) perfectly addresses Muradian's (2019: 260) question: "What is the political feasibility of a differentiated growth regime at the global level? Who would decide who should grow (and at what rate) and who should not?"

[3] "Their [adherents to the degrowth movement] profile tends to be of the highly-educated European middle class with high environmental concerns, emphasis on non-material aspects of the quality of life, preference for cultural diversity, pacifism and healthy and low-impact diets. They are usually aligned with the political postulates of green parties" (Muradian, 2019: 258).

differences." It is indeed odd that the degrowth scholarship pays little or no tribune to non-Western thinkers, especially because most cases of really-existing-degrowth are in the global South (e.g. the Zapatista in Mexico, Rojava in Syria, Cuba, or Bhutan). Are there no Mexican, Syrian, Cuban, or Bhutanese thinkers who deserve to be recognised as "precursors of degrowth" (the title of Serge Latouche book series)?

Muradian (2019) goes further and argues that it is also Eurocentric in scope: "the degrowth movement represents the values, concerns and interests of a particular social class, namely the 'green' European middle class" (ibid. 257). Perkins (2019: 186) makes a similar point: "degrowth activists generally maintain that they want degrowth with equity, but the movement itself to date largely lacks participation and input from marginalized workers from either the global North or the global South, who might be able to represent and integrate those concerns."

In light of what I have been arguing above, Muradian's critique seems unjustified. What if the degrowth-inspired European middle class desires nothing more than to let the South aspire to their own "values, concerns, and interests"? I agree with Perkins's that these people are not part of the conversation and that is problem, but who would disagree with being given more autonomy? This is a classic feminists-cannot-be-men simplification of the philosophy of degrowth, with material interest driving the show.

I am sympathetic to Dangler and Seebacher (2019: 249) and Rodríguez-Labajos et al. (2019: 179) even though I think they are unnecessary worried:

> "The second argument brought up against degrowth claims that degrowth reproduces longstanding (neo-)colonial asymmetries by setting the agenda on what ought to be done to solve problems of global relevance. According to this criticism, the Global North (once again!) establishes norms, limits and strategies by opting for a degrowth transformation. Thereby, it re-enacts its colonial role as "guarantor of the exercise of justice" (Dhawan, 2012: 266) and continued bearer of the global "'white man's burden', namely the responsibility and obligation of the Europeans to 'save' and 'enlighten' the rest of the world" (Dengler and Seebacher, 2019: 249);
>
> [In a section titled "Eurocentric Thinking (Again!)"] "A pervasive criticism of degrowth is that its European roots have percolated the type of proposals it makes. Once again, an idea is launched to the world with an undeniable Eurocentric (or Northern) origin" (Rodríguez-Labajos et al. (2019: 179).

If the point these authors want to make is that the global North (both its decision-makers and scholars) should be humble and willing to listen to what others have to say, I could not agree more. And if they mean that the degrowth scholarship could use more diversity, especially "from the margins" (Hanaček et al., 2020), meaning those who are marginalised because of gender, race, class, or caste, I also agree.

Indeed, "many post-growth ideas have non-Western roots, and voices of academics and activists from the Global South are as crucial as those critical streams of thought in the North" (ibid. 7) – they give M. Gandhi, J.C. Kumarappa, and R. Tagore as examples. Latouche was himself sceptical of translating the term in English and organising international conferences. "I was not much of an advocate of spreading the term to the world. I think that every culture, every

society must find in its imaginary the word(s) to express the idea of degrowth" (Latouche, 2014b: 142, mt).

But let us not forget that the current situation is one of extreme inequality, with the upper classes beating up all others through their "imperial mode of living" (Brand and Wissen, 2013) and with international organisations actively pushing for growth. Just like the struggle for gender equality, it is not enough for an oppressed minority to speak up, the oppressing majority also needs to speak down. Degrowth is such call to speak down, it demands an end to the beat up. Answering whether degrowth is Eurocentric or not, D'Alisa (2019) writes that "indeed, degrowth is Eurocentric,[1] but in a more narrow and probably less negative sense. Degrowthers from Europe want to tell a story about practitioners, activists and scholars that open up the imagination for going beyond a society founded on growthism." That makes degrowth a strategy of independence from a Western form of colonisation: the imposition of growth-seeking, market economies everywhere in the world.

Perhaps one should take as evidence of the relevance of the idea in the global South the fact that the degrowth movement is increasingly present there. For example, a debate on "poverty and degrowth" in Cotonou (Benin) in 2007; the *Decrecimiento México* movement launched during the same year, the "To boost degrowth in Mexico" seminar in 2009, and the First North/South Conference on Degrowth-*Descrecimiento* in Mexico City in September 2018; and the first degrowth symposium in India in September 2014 ("Growth, green growth or degrowth? New critical directions for India's sustainability"). In the end, degrowth shall spread wherever it resonates with the aspirations of people.[2] Unlike the Washington consensus, these events were not forced organised by Western forces.

There is much more to be said about degrowth and the global South but it is unlikely that I, a white privileged male from the rich outskirts of Versailles, has much to contribute on the matter. So let us conclude with Hanaček et al. (2020: 6-7, italics in original) that "a renewed agenda on the ecological economics of degrowth necessarily involves further engagements with perspectives *from* the Global South."

Conclusions for Chapter 7

DEGROWTH has incurred the wrath of a horde of detractors, but as I hope to have shown in the first section of this chapter, many of the charges against degrowth miss their target. Degrowth is misconstrued as a number of things it is not: a recession; synonym with decrease; a total rejection of technology, science, and innovation; a nostalgic call for turning back the clock or for stopping the clock at once; neoliberal austerity and religious asceticism; State oppression, closed sectarianism, or a form of survivalism; an apology of poverty and a romanticisation of the poor; a reaction to scarcity; as well as a form of eco-capitalism.

[1] Here the preceding sentence from D'Alisa (2019): "Degrowth might sound like a new Eurocentric less, once again Europeans preaching what to do and how to face the multiple crises that people around the world live with. You might think that degrowth is a series of proposals that once again universalized and impose the very specific issues that Europe faces to the rest of the word."

[2] "The degrowth movement is doomed to be an Eurocentric project as far as it does not resonate with the aspirations and values of disadvantaged social groups in lower income countries" (Muradian, 2019: 260).

One lesson learned from writing this chapter is that degrowth, as a field, could do with a little more clarity. This has been my objective in addressing the controversies, and I hope that some detractors will find in it answers to their questions. Another insight I take from analysing the diverse ways how degrowth is feared, hated, and ridiculed, is that the concept does hit a cultural nerve. This can be taken as evidence of the utopian character of its demands. Those finding degrowth outrageous comfort themselves in the story that it can only be the confabulations of a handful of lunatics.

Once these misconceptions cleared out, we saw that the degrowth discourse was nonetheless solidly criticised. If organised along Hirschman's (1991) categories of reactionary[1] narratives, degrowth is considered either *perverse* in that it makes the problem worse (unhappy; misguided, classless, escapist, and anti-revolutionary; universal; too little too late), *futile* because ineffective in achieving its objectives (deterrent; crowded), or *jeopardising* because it endangers some previous accomplishment (sexist and oppressive; nasty, brutish, and short; unaffordable).

These are the nightmares that should keep degrowthers awake at night. Of course, all these attacks are not equal in strength, and some of them still stand on mistaken assumptions. Often I feel like the word is mobilised but not the concept, with degrowth made into a straw man by trigger-happy opponents. This propensity to shoot is comforting me in my belief that degrowth is indeed a word that is upsetting the world.

[1] By appealing to Albert Hirschman (1915-2012), I do not mean to say that all criticisms to degrowth are neatly classified as reactionary. As it should be clear by now, the term has been criticised by an array of different thinkers, left and right, conservative and liberals, Keynesians and neoliberals, capitalists and socialists.

Conclusions

Memories of life after growth

THIS second part of the thesis was about degrowth. It brought us on an interdisciplinary journey through all the classic questions of political economy: How to organise provision? What leads to human flourishing? What is to be considered just and unjust? How does culture interact with nature? Which balance is to be sought between individual freedom and collective organisation? What is the source of value? What is the role of the State? And most importantly: What is the economy for? Using the degrowth frame to shine a new light on these old questions, this part has sought to make a number of points.

It opened with half a century of history (1968-2018) sliced into three periods, each corresponding to the emergence of a specific dimension of the term "degrowth." The environmental denotation (degrowth-as-decline) was born in the 1970s with the rise of the environmental movement. The revolutionary denotation (degrowth-as-emancipation) only came in 2002 when post-development critiques converged with the arguments of ecologists. Although the third denotation, which I have called utopian (degrowth-as-destination), is more difficult to precisely date, I have delimited its beginning in 2008 with the arrival of the term *décroissance* in English at the first international degrowth conference.

From the fringes of French revolutionary movements to a soaring international community of activists and scholars, degrowth has been a rallying cry for all of those wanting to imagine and build a better world. Whether used as a slogan, a concept, or a utopia, the term gave a shared meaning to a wide diversity of actors. Following the course of a well-known aphorism, degrowth went through the process of being ignored, ridiculed, and attacked. As to whether it will ever become common sense, only time will tell. In any case, whereas degrowth was created to change the world, the world – and not least its climate – is itself changing to make degrowth an idea that is more and more difficult to ignore.

After history came theory. Chapter 6 detailed what degrowth *is for* (moral values) and what it *is about* (institutional implications). While degrowth could be conceptualised in countless ways (as deceleration, as commoning, as localisation, as conviviality, as anti-utilitarianism, as autonomy etc.), the choice was made in this chapter to bring these understandings together in one grand narrative: *degrowth as de-economisation*, namely an escape from the economy and its way of thinking.

Degrowth rests on three universal values which constitute its DNA and the watch words of a degrowth revolution: autonomy, sufficiency, and care. When applied to the five acts of provision, these values inform an institutional landscape that I have summarised as a list of fifteen principles: resource sovereignty, sustainability, circularity, socially useful production, small not-for-profit cooperatives, proximity, convivial tools, postwork, value sovereignty, commons, gratuity, sharing, voluntary simplicity, relational goods, and *joie de vivre*.

Whereas Chapter 6 was arduously abstract, it might be pleasant to pause a second and try to imagine what it would mean in practice. Degrowthopia is a society where the economy and its way of thinking are no longer at the centre of everything. Exploitation, let it be of people or planet, has ceased. The extraction of material and energy is capped to a minimum at which everybody can flourish without threatening the health of ecosystems. Production aims to satisfy needs and is self-organised in small artisan circles and cooperatives using convivial tools and favouring quality over quantity. The reasonable amount of (renewable) energy required for a simple living is provided via decentralised cooperatives, which run as commons like most essential local resources and infrastructures. The circulation of goods is organised within self-sufficient bioregional commons of different sizes and at times facilitated by community currencies. Most of the financial system is made of credit cooperatives that abide by strong ethical rules preventing accumulation. Surpluses are dépensed back into nature in grand public parties in celebration of solidarity and *joie de vivre*. Political life consists of direct democracy at the town or neighbourhood level and representative democracy at the bioregional and national level. Anybody is guaranteed free access to a decent level of food, education, healthcare, transportation, housing, information, as well as water and energy, either via public services or by the granting of an autonomy allowance. People do not work but alternate between paid and unpaid self-determined activities and are less concerned about their career and material possessions. They travel slower and closer while embracing frugal lifestyles that strongly rely on relational goods and reciprocal networks of care and gift. This is what degrowth is concretely about. Even though this idealistic depiction of a society might seem distant from today, it can be used as a magnet to educate desire and certainly move closer to it.

Proffering a general theory of degrowth is like offering a business class flying voucher to a downshifter, it can be prone to misunderstanding or even mischief. So let it be clear: this theory is only one among an infinity of possible others. Not *the* political economy of degrowth but *a* political economy of degrowth. My intention in turning the jungle of degrowth into a set of well-ordered elements is only to foster discussions and this as to further our collective understanding of degrowth. I do not wish to embark on an ideological crusade to impose upon culturally and geographically diverse others a monolithic, dogmatic idea of Degrowth. Beyond claims of universalism, the framework I offer should be situated within the social-historical context from which it emerges and should never by-pass the critical eye. I can here use Kallis (2018: 12) word for word: "I do not claim that this is *the* theory of degrowth; it is rather *a* theory – one of the multiple possible ways one may combine the various elements and keywords that constitute the 'vocabulary' of degrowth." The outcome of Chapter 6 is a beginning and surely not an end.

Reflecting on such a theory-building experience cannot force anything but humility. I opened this second part harbouring the fantasy that I could bring clarity and precision to a concept that many people argue is not – and should not be – a concept. More than 200,000

words later, I am confronted with the fact that this objective is only partly achieved. Degrowth is a conceptual eel; difficult to pin down and actively resisting theorisation. I started by criticising Kallis' list of principles for its lack of interactions, but I end up with a list with the precise same shortcoming (although I hope I have at least filled a few gaps as to the content of each of these principles and how they come to interact). I remembered Sutter's (2017: 88) concern that "overspecifying what constitutes degrowth could lead to a narrow ideology that alienates many natural allies" and this is why I have proceeded in stages, each time leaving analytical room as to be able to connect with other concepts and theories. If anything, this is only a first step, which I hope will inspire other thinkers to keep mining that bottomless pit of wonders that is the idea of degrowth.

In Chapter 7, I have shown that degrowth is controversial. Decades after its genesis, the term still confuses, disturbs, frightens, and provokes; this is the evidence that degrowth is still in the making, an alive idea that constantly generates hot controversies.

Some of these contentions are simple *misunderstandings* – I have counted 16 of them: degrowth being pro-recession; a synonym with decrease; technophobic, anti-science, and the end of innovation; retrograde and reactionary; austerity and asceticism; authoritarian, sectarian, and survivalist; an apology of misery and a romantisation of the poor; an economic solution to scarcity; as well as compatible with capitalism. Others charges stand as solid *criticisms* – I have identified 9 of them: deterrent; unhappy; crowded; unfit to the task at hand; unaffordable and disempowering; misguided, classless, escapist, and anti-revolutionary; sexist and oppressive; anti-civilisation; maladapted to the South; and too slow for urgent environmental issues.

Looking at misreadings, I have sought to cut through some of the confusion surrounding degrowth discussions; looking at criticisms, I have sought to open new dialogues at the research frontier of the field. Studying the concept from the perspective of the disagreements it creates gave a perfect vantage point from which to observe the frictions between the ideology of growth and the utopia of degrowth. There is a reason why controversies keep repeating themselves. It is not only due to degrowthers being vague and unclear (many of them are), but also because the ideology of growth is dominant. Hence the large, uncoordinated attempt to discredit what it stands for. As long as growth will be hegemonic in the social imaginary, degrowth will remain scandalous and the burden of proof will rest on the side of the prosecution. This is perhaps a good thing. Degrowth should cherish its contradictions as sources of self-reflection, debate, and innovation – it is precisely because it is criticised that it keeps evolving. The day degrowth will cease to be attacked, it will also cease to be useful as a revolutionary concept.

And yet, writing this chapter also made me realise that we should reflect wisely regarding what we spend time disagreeing on. Litres of ink are being spilled, including in this thesis, on insignificant questions, such as whether "degrowth" is an appropriate term or not. Simultaneously, crucial issues relating to migrations and international trade, the rise of authoritarian populism and religious extremism, or racial and gender equity are left untreated. The degrowth scholarship is small and limited in its ability to address research questions; it should not waste its time in a customer service-like treatment of all kinds of dissatisfactions. Instead, it should focus most of its effort in the construction of clear and solid arguments addressing issues that matter most.

After such a journey into degrowth, a note of caution is important. Chapter 7 stands as a safeguard against degrowthcentrism, or the belief that degrowth is the answer to all abstract

and concrete problems in the world. Degrowth is not everything. This thesis started by acknowledging a crisis of political imagination; imagination requires diversity and one colour is short of a palette to imagine alternative futures. What is most needed today is to enrich the breadth of options, to substitute an ideal of pluralism to one of universalism. Should degrowth one day become the prevailing ideology, academic theses like mine will be necessary to explore the *de*-degrowth utopias that will have emerged in contradiction to it. Only via this constant reflection over the dialectical movement of social imaginaries can a society preserve its collective autonomy and with it, authorship over its futures.

Degrowth is then both broad and narrow. It is broad because it is an open, self-reflective concept, strongly attached to ideals of participatory democracy, which makes it quite flexible. An evidence of this plasticity is the fact that the term is being used by a diversity of actors on both sides of the political spectrum (Chapter 5). And yet, degrowth is still narrow enough to summarise it as a set of stable features (Chapter 6), even though the periphery of these principles as well as their consequences are constantly discussed (Chapter 7).

The main claim of this part is that degrowth is a powerful utopia with the capacity to topple the ideology of growth. Whereas growthism is composed of an economicist ontology ("everything can be economic") and an ethos of abundance ("limits are bad" and "more is better"), degrowth scales back the boundary of the economic ("some things should not be economic") and espouses an ethos of sufficiency ("limits are good" and "less is more"). It is a shift from a negative perception of limits as obstacles to a positive perception of limits as guardrails – the realisation that what one thought was a rope tying the economy up is actually a safety belt.

As I have announced in the introduction of this part, if Growth is the disease, Degrowth is the cure. Degrowth is a conceptual scalpel to ablate a cancerous Economy from society and nature; it is an ideational divestment in the ideology of growth that sees the expansion of commodities as a measure of progress; it is a societal defibrillator to wake modern societies from their ideational coma and to revive a dormant utopian impulse. Degrowth is more than a solution to the crisis, it is an analytical frame to reconceptualise what is understood to be in crisis – from a crisis of not enough to a crisis of too much. It does not locate the problem within either a sickly biosphere or an impotent democracy, but rather denounces the normal mode of functioning of a specific economic system.

Even though the failure and impossibility of economic growth are becoming increasingly difficult to ignore, degrowth still seems unreasonably radical. Hence the paradoxical position of degrowth as a realistic demand for the impossible. But in the same way that the pursuit of larger national income came to replace an aspiration for stability in the 20th century, degrowth could well become the new common sense of the 21st century. As stated by the 2019 open letter calling for a European Sustainability and Well-being Pact: "Time to stop growing and grow up."

It cannot be overstated that the invention and realisation of a degrowth society is a fundamentally democratic project that cannot be delegated either to scientists, activists, or politicians. Degrowth *is* the collective crafting of a utopian society. It is not a "solution" per se because it is based on the premise that the transition is inherently political, that there will be no win-win solutions, and so that it should be democratically discussed in order to share burdens and benefits fairly. This is one final point which deserves some further comment.

As an economist working on degrowth, the questions I receive most often are: Is degrowth "feasible"? Will degrowth "break the economy" or "cause a recession"? Can we "afford" degrowth? Is degrowth "possible" for everyone? These questions are badly formulated because they assume that the economy is *out there*, an adamant entity with an agenda of its own (think of a giant Jenga tower that, if touched in any way, would risk collapsing). It also assumes that with a computer model sophisticated enough, one could crash test reality as to assess the feasibility of degrowth.[1] But "is degrowth possible" is the wrong question because degrowth is not a technical but a political project (contra Brown, 2019).[2]

The problem/solution framing carries two biases. It is technocratic: defining something as a *problem* implies that there must be a *solution*, and often implies that "experts" are the ones who can provide that answer. Most problematically, it mills out the political out of a "problem," ignoring the fact that someone's problem can be someone's solution. (Climate change is both a *problem* for the Syrian farmer with desertified land and a *solution* for the car manufacturer who, through unregulated emissions, manages to minimise the cost of making a car.) For every decision, action, or intervention, some people benefit and other lose. The key question is then: Who wins and who loses in a degrowth transition? In the introduction of the thesis, I have criticised the concept of Anthropocene showing that it conceals power relations. In the same vein, the question of *possibility* assumes that there is a homogeneous *we*. Is downshifting as *possible* for the Ardechois farmer as it is for the Londonian trader? Is autonomy as *possible* for Ukraine as it is for Russia?

The engineer linguo of problem and solution is an escape from politics. Unlike a technical problem that can be solved on a blackboard, degrowth is unavoidably political, and as such, can only be addressed in the loud and unpredictable mess of the agora. It is imperative to understand that a degrowth society (or any other society for that matter) would not be the end of history, but only a choice made at a specific time in a specific place by specific people. I have presented degrowth as a "solution" to the current predicament of Growth societies, but it will unavoidably bring novel "problems" that will then require other discussions and other "solutions" and this *ad infinitum*, hence the importance given to a healthy democracy and a vivid political imagination.

What is certain is that the future will only contain what is put into it now. No tree has ever grown from a seed that does not exist. My contribution is humble and I only hope to have provided enough conceptual materials for structuring a constructive discussion about what a more desirable economy may look like. Of course, even though I draw on many minds, this remains the interpretation of one, with all the flaws associated to any solitary research. This is then only a departure point for an unprecedented and unpredictable exercise in collective utopianism.

If Growth is the current reality of most nations in the world and Degrowth its desirable destination, what are the options available to build a bridge between the two? After Part I pointing to the limits of the growth society and Part II proposing an alternative to it, Part III will look at the bridge, that is the different ways to transition from one to the other.

[1] Mastini (2017) uses the question "Is a degrowth economy possible?" as a title to introduce the latest findings in ecological macroeconomics. This narrowing of the realm of possibility to economic conditions is dangerous as it frames the feasibility of social change within the precise mindset that degrowth is trying to escape.

[2] In a debate with Jason Hickel, Brown (2019) writes: "Your anti-growth solution is to fall back on command-and-control techniques which presumes that we already know the answers to society's problems."

Part III

Recipes for degrowth

Introduction

The key, the clock, and the coin

DEGROWTH yes, but how? We have reached the end of the rabbit's hole and it is now time to come back to the present. Whereas the previous part described what degrowth was about, this one is dedicated to how the transformation it envisions is to come about: what has been done, what is being done, and what remains to be done to establish a degrowth society. It is time, in other words, to go from vision to practice.

Degrowth was never meant to remain an abstract idea to be explored in the comfort of one's armchair; on the contrary, it has always been – and still is – a thought of action, meaning a concept destined to change the world. The utopian economy I drew had a goal: to educate desire for alternative futures. So, it's time to walk the talk.[1] If in the academia, it takes a theory to kill a theory; in parliaments, boardrooms, and committees, it takes a policy to kill a policy. What needs to be done now is translating the ideal-type of degrowth into operational transition strategies forming a bridge between dysfunctional today and desirable tomorrows.

I should say right away that I commit to an unusual definition of "policy." Not only the commonly understood *public* policy but any purposeful change in rules and customs, regardless of where it happens. This means policies and policymaking involve actors in all four spheres of society: households, communities, firms, and government. The task of this last part is to provide all these policymakers with a rich menu of alternatives readily available to act on the idea of degrowth in the here and now. But a menu is not enough. What is needed is not an endless list of possible actions but articulated policy maps with diverse scenarios.[2] The emphasis is on *diverse*; not one single red dotted line but a diversity of pathways to accommodate each community's unique circumstances.

Tracing the path from the ideal to the real requires a specific analytical approach. The one I follow is a combination of three elements: *prospective* in French future studies, *policy*

[1] This part being concrete does not mean it is devoid of theory. In his review of the book *Enough is Enough* (Dietz and O'Neill, 2013), Spash (2015: 369) affirms that there is little value in making policy recommendations that stand as isolated arguments disconnected from any convincing theory – that are "just good things to do. […] there is much wishful thinking and that would be fine if described as visions or scenarios, or hopes, but not as a realistic practical action plan." I agree; and indeed, the research question that underlies the present chapter is theoretical: *How to transition to a degrowth society?* Answering that question requires solving both conceptual and practical problems, both of them new opportunities to reflect on degrowth as a concept and a strategy.

[2] The digital *Sufficiency Politics Map* built by Angelika and Dominik Zahrnt is a good example of what I mean (for the map, see Zahrnt and Zahrnt, 2013; for more about the map, see Zahrnt and Schneidewing, 2014).

design in political science, and *transition management* in Sustainability Transition Research. *Prospective* is a specific philosophy of the future. It stands on an existentialist understanding of plural futures where the realm of the socially possible is ultimately a matter of political imagination and will. *Policy design* tells us that, ultimately, there is nothing set in stone about policymaking; each policy is nothing but the outcome of specific political intentions and interests, and can be more or less adequate and effective. At last, I appeal to *Transition management* because thinking in terms of individual policies is not enough when there is a need to think in terms of pathways and scenarios. Combining them means starting from a utopian destination (the economy I have described in Part II) and, in a backcasting fashion, asking which changes are most likely to get us there.

Surprisingly, this has not been done before. Whereas it has become quite common for degrowthers to recommend policies, often presented in the form of a minimal programme *à la* Georgescu-Roegen,[1] there has been no theoretical or empirical work attempting to classify or analyse them. To the best of my knowledge, Cosme et al. (2017) have produced the only comprehensive inventory of degrowth proposals.[2] Existing answers to the how-question are insufficient on a number of ground.

Most strikingly, policy agendas are poorly structured. The typical degrowth study is problem-focused and ends with only a sprinkle of policy proposals, most of the time written as a Christmas-like list of progressive changes with little or no structure: e.g. universal basic income, divestment from fossil fuels, direct democracy, local currencies, localisation of production and so on. These raw lists mix goals and instruments, making them inoperable in terms of advocacy. To stay with the cooking analogy, current recipes for degrowth are as useful as this: vegetables, good taste, salt, warm, pasta, juicy.

Another notable shortcoming of both the programmes and their studies is the lack of precision concerning the actual policies. Few studies provide details about *which type* of, for example, basic income is desirable from the perspective of degrowth. Just like one should not judge a book by its cover, one should not judge a policy by its name. A policy mix made up of a Negative Income Tax, Bitcoins, and zero-hour contracts should not be considered degrowth just because it includes a kind of "basic income," a kind of "complementary currency," and a kind of "work time reduction." "Basic income," yes, but which variant of basic income and how big? Given in what currency, when, and under what conditions? Financed how and given to whom? Because the devil is in the details, the answer to those questions can make a difference between a basic income that is compatible with degrowth and another that is ill-fitted to it.[3]

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[1] In *Energy and Economic Myths* (1975: 377-79), Georgescu-Roegen proposed a "bioeconomic minimal programme" in eight actions: (1) prohibit the production of all "instruments of war," (2) assist the "underdeveloped [sic] nations" to "arrive as quickly as possible at a good (not luxurious) life," (3) gradually lower population "to a level that could be adequately fed only by organic agriculture," (4) avoid and regulate all waste of energy (e.g. "overheating, overcooling, overspeeding, overlighting"), (5) "cure ourselves from the morbid craving for extravagant gadgetry," (6) "get rid of fashion," (7) design products to be repairable, and (8) work less and have "a substantial amount of leisure spent in an intelligent manner."

[2] Schriefl et al. (2008) list 42 "approaches for a socio-ecological transformation of society"; Ferguson (2013) proposes a framework to evaluate post-growth policy instruments (he points to 9 instruments); Hardt and O'Neill (2017) identifies 8 post-growth policy themes; Koch (2013: 13-16) briefly outlines policies implications; Farley et al. (2013) discuss fiscal and monetary policies (even though not explicitly attached to degrowth); Videira et al. (2014) explore the complementarity between nine proposals; and Petridis (2016) presents a typology of approaches to transformation.

[3] Here is an example from Latouche's (2019a: 94, italics added, mt) latest book: "One would need to set rules that regulate and the greed (quest for profit, for ever more) on which market society rests: establish a social-ecological protectionism, reform labour laws, limit the size of companies, *etc.*" Comparing Latouche's (2009: 69) policy proposal regarding work ("transform productivity gains into a reduction in working hours and job creation") with, for example, Perey's (2017: 214) one almost a

This position of relying on vague policy keywords is not operational and can frustrate decision makers who are faced with the obligation to design and implement precise policies.

While the degrowth scholarship falls short on individual policy prescriptions, it is silent on how several policies would interact to form a full transition.[1] The majority of the – already few – texts that focus on the question of *how* only focus on stand-alone policies. Exceptions can be counted on one hand. Videira et al. (2014) take a systems analysis perspective to draw Causal Loop Diagrams (CLD) as to explore the complementarities between nine degrowth proposals. While this is precisely what I think should be done, the analysis remains superficial. Based on two short workshops involving around 20 participants, the selected policies are vague and detached from a specific context. In his Masters thesis, Dula (2015) uses a system dynamics computer-simulated model to study the interaction between five proposals. But again, the analysis is of little value because the design of each policy is never detailed. In a short article, Mastini and Rijnhout (2018: 52-53) represent the interaction between ten policies in one single causal diagram, but again in an abstract manner and without specifying what each policy entails.

In the end, not only does degrowth lack specific *ingredients* for its transition, but these ingredients are studied within separate silos – if they are studied at all. But how would several policies interact together? For example, how would a full reserve banking reform affect local currencies? What would be the impact of a basic income on working time, and how would this change should one add a job guarantee scheme to the mix? Should these policies be implemented all at once or should some come before others? Are some policies more important than others? Just like in acupuncture, it is not enough to identify leverage points, one should also find the right sequence in which these points should be acted upon.

Another weakness of this line of research is that it neglects to mention which agents are expected to carry out the changes. Often, it equates "policy" with "public policy," then ignoring a diversity of interventions outside the realm of the State. A time bank does not magically appear via legislation nor does it smoothly rise up from the grassroots level with no assistance from public authorities. Each initiative is a complex confluence of social interventions involving different stakeholders. What is the role of the national government, municipality, businesses, associations, consumers, and citizens in running a local currency? This narrow focus on top-down policies is especially problematic for degrowth, which aspires to decentralise governance at smaller, grass-roots levels. So yes, public policy may be key *today*, but it will lose some of its importance in the long-term if the ideal of direct democracy is pursued.

Last but not least, transformations are most often proposed and studied in a political and cultural void detached from any specific social-historical contexts (Buch-Hansen, 2014, 2018).[2] Which types of basic income would be appropriate for the New Aquitaine, the whole of France,

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decade after ("reducing working hours and implementing a social wage to guarantee income to everyone [with an] expansion of community-defined volunteer work"), the demand is still as imprecise.

[1] Some stand by their silence arguing that the future is too complex, that blueprints are undemocratic (e.g. Abraham, 2019: 272), that there is no point moving in ideas before moving in actions, along with a general attitude which reminds of a line from Chaplin in *Gold Rush* (1925): "to know where I am, I must first get there." To that I say: the future will always look uncertain from the present, and future generations will always know more about it than we do now. This should not be taken as an excuse against action today, comforting us in thinking that we shall simply pass down the ball to them. We cannot both argue that things are urgent (e.g. climate change) and that the best strategy we have is to prepare the next generation for action.

[2] This was Vergragt's (2010: 79) criticism while reviewing Latouche's *Farewell to Growth* (2009): "Although the author is reasonably convincing on the level of ideas, he fails completely at the practical and political levels. His analyses may be true globally, but when you try to translate these concepts to your street, your family, your friends, your workplace, or your political party, the flaws become clearly evident."

Switzerland, or even the European Union? Different territories face different rules and customs, each requiring tailored policies. And this is also true for transition scenarios. I hear Herbert (2018) in his call for "context-sensitive strategies"[1] and also believe that there will be as many degrowth transitions as there are territories transitioning.[2] In short, there is no one-size-fits-all recipe for degrowth.

In light of these shortcomings, it is fair to say that the "recipes for degrowth" remain underdeveloped (Pueyo, 2014: 3467), which leaves degrowth in a state of "strategic indeterminance"[3] (Herbert, 2018). The diagnostic I draw of the degrowth policy literature reminds me of a sentence that Howlett (2004: 1) wrote about policymaking in general: "less like the scalpel of a careful surgeon working on the body politic, and more like the butcher's cleaver, with little respect for the tissue of the patient falling under the knife." No decision maker will substitute the scalpel of Growth with the cleaver of Degrowth.

This is something I personally experienced in September 2018, sitting in the European Parliament during the Post-Growth Conference. Degrowthers spoke to attentive politicians but they had nothing to say that was relevant to the solving of policy problems. Degrowthers were like physicists talking quantum entanglement to the bike mechanic trying to change a tyre; true and interesting, perhaps, but relevant and useful, not. In order to build up degrowth as a solid alternative, it is essential to develop policies and scenarios that are detailed, well-articulated, and adapted to their political and cultural contexts.[4]

Hence the objective of Part III: to sharpen degrowth's policy tools. This starts with identifying leverage points. A foundational hypothesis behind this part is that degrowth should aim at transforming the three specific institutions that hold the growthist system together: property, work, and money – the key, the clock, and the coin. What I intend to show is that targeting these in a triple movement of de-economisation can achieve the manifold objectives I have described in Part II. This analytical division forces me to separate discussions of issues that are intrinsically linked in reality, and I will indeed keep discussions separate in Chapter 9, 10, and 11. In the last chapter, however, the division will collapse and I will bring all these elements together into one single policy strategy.

This split into policy themes is unusual, and I am sure most readers would have expected an *instrument* approach to policy design: one section on tradable energy quotas, another on taxes on financial transactions, another on advertisement bans, and so on. And yet, I believe this is a weakness of current degrowth policy agendas, which crumble at soon as one single instrument is opposed. Instead, I build a policy agenda hierarchically with goals, objectives,

[1] "*Context-sensitivity* refers to the incorporation in the research process of distinctions between different institutional arrangements, cultures, values, political landscapes, governance structure etc. […] strategies should be compiled in order to filter the plurality of degrowth, and to clarify that some strategies are more appropriate than others in certain contexts" (Herbert, 2018, italics added).

[2] "Economic policy recommendations that fail to pay any attention to social aspects are like planning a transport system by designing a car engine" (Spash and Smith, 2019: 216); "the acceptance and fate of any theoretical proposal is determined by its real-world design, implementation and effectiveness as shaped by the political economy in which it comes to operate. We cannot see the design of a policy as only an analytical question separate from the real context in which it will function" (Kallis and Martinez-Alier, 2010: 1571).

[3] "We argue that the pendulum has swung too far towards excessive plurality, thereby valuing all approaches (and strategies) equally in all contexts, resulting in a detrimental strategic indeterminism" (Herbert, 2018).

[4] Of course, I am not naïve enough to believe that degrowth would explode in popularity should it comes up with better policy recommendations. This would ignore the ideological and structural character of economic growth and the power relations that comes with it (Chapter 1). And yet, good policy recommendations are one part of the puzzle without which I can hardly imagine a degrowth transition to occur.

targets and *only then* specific instruments. This makes the approach much more modular, allowing decision makers to change the goals, objectives, targets, or instruments they disagree with instead of rejecting the entire agenda altogether.

Degrowth is a jigsaw puzzle that requires many pieces. Instead of looking for panaceas, I think in terms of *policy bundles* built as menus. No silver-bullets but a pallet of options to choose or build from. This being said, policy bundles should not be understood as an anything-goes, policy-smoothie approach to intervention. A policy bundle still is a policy recommendation, with clear choices being made about which policies to include, what form they should take, and the hierarchy between them. I offer these recommendations with explicit justifications as to enable others with different needs to undo these decisions and take different ones should they better fit their situation.

Readers may be quick to notice that many of the policies in my bundles demand State intervention. This is indeed a claim that will unfold throughout this part: public authorities, in all the forms they take, will be key actors during a degrowth transition. As I detailed in Chapter 7, this is a controversial statement, and so it is reasonable to expect a defence of my strategy before we move on. Here is the twist: this role will be limited to an executive function with public authorities being the muscle but not the mind. I accept the assumption that, by definition, only civil society can – and from the perspective of autonomy, should – be utopian. But I also realise that public authorities can either promote or repress these revolutionary impulses. The State is never really passive; it is always either a force of conservation or one of progression. Should it decide to engage with the latter, the State could become a protector or even amplifier of utopian initiatives.

If degrowth cannot do without the State, it is because today's political playing field is not even, with corporations holding significant power over anybody else. Civil society finds itself in the same situation as Aron Ralston in the film *127 Hours* (2010), held immobile with one arm stuck under a heavy rock. My claim is that only the government is powerful enough to lift the rock, even though it has no say in the matter of where civil society should then go. Public authorities should act as the crowbar of change, clearing an "extrication path" (Rumpala, 2009, mt)[1] or an "escape route" (Fournier, 2008: 541) from business-as-usual.

To those arguing that it is only a matter of time before the multitude of utopian alternatives overthrow the prevailing system on their own, I then add: it is imperative to lift the rock *before it is too late*. In this analogy, death is environmental breakdown. Alternative systems of provision are not built in a day; neither capitalism nor communism were, and it would be naïve to expect degrowth to spring into action on its own. In a world with an infinitely forgiving biosphere, one may let these alternatives bloom at their own pace. But in a situation where nature is being compromised at an increasing speed, alternatives could use a serious boost.

Is it then a transition or a transformation? In the degrowth literature, it is common to favour "transformation" over "transition," the former being associated to more radical, structural change.[2] For some, "transition" is problematic for having an already pre-determined

[1] I indicate what has been personally translated by adding the acronym "mt" (for "my translation") to the reference.

[2] Muraca (2015: 379), as one example among many, argues that "transition approaches fail to fundamentally rethink social structures, because they do not engage critically with the root causes of unsustainability." Also Kallis (2017: 155): "degrowth is better than neutral terms like 'sustainability' or 'transition.' " Wallenborn (2008: 228) argues that *transition* is too slow and

destination,[1] for being too passive and conflict-adverse, and for postponing the most difficult changes into the future. Others prefer "transition" because it is pragmatic and grounded in existing practices, most notably the Transition Town movement,[2,3] and because it stresses the intentional character of the social intervention (in contrast to an emergent process of transformation).

In this thesis, I will use both, almost interchangeably. As a societal project, degrowth is *transformative* in the sense of revolutionary (I use the term revolution in Castoriadis' sense[4]) and it should indeed be distinguished from pro-growth innovations (Decker, 2018). But because degrowth is an alternative system with previously defined features (as I claimed in Part II), it also makes sense, especially in a policymaking context, to talk about a transition period from one system to another. What matter is the qualifier: "*degrowth* transition" and not simply "transition" as an overall concept, which may then be co-opted for anything and everything. (I will not settle this debate by coining an unnecessary term like *transformative transition*, but this is what I mean by it.)

Another reason why I like the term "transition" is because it makes clear that all the changes degrowth proposes have to start in the world as it is today. Principles are easier to state than to implement, especially in the turmoil of mass unemployment, poverty, rising financial instability, neoliberal austerity, authoritarian populism, and under the constant threat of ecological collapse. Like any escape, the one from the growth society starts from inside and transition scenarios should be lucid about the prevailing political and social common sense in the design of their policies and the way those policies are sequenced.

But I should not promise too much. This part might be about the *how* but it merely scratches the surface of the question. While I will detail what kind of goals should be associated to a degrowth transition and how they could hypothetically be reached, I warn the reader in advance that I will remain silent on the conditions under which such a radical change would be plausible. I propose no theory of change and offer only superficial insights on concrete transitional scenarios and political strategies, leaving these crucial important questions for future research. One could say, in other words, that Part III builds a bridge without giving much indications on how it shall be crossed – it is a study of *policies* for degrowth without an analysis of the *politics* of degrowth.

It may seem controversial to assume, like I do, that a bridge should be built without discussing how it should be used. In light of the current situation where degrowth is not

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that degrowth requires a *mutation* instead. They are, of course, many exceptions, starting with Bonaiuti's classic *La Grande Transizione. Dal declina alla società della decrescita* (2013) – The Great Transition. From the decline to the degrowth society.

[1] Gorz (1999: 79) writing about "exit routes to capitalism" is a good example of an open-ended transformation: "we have to maximize the number of paths 'out of capitalism,' this expression being understood in the sense of a biblical exodus which invents its own 'promised lands' as it goes along. […] multi-activity being both the engine of the exodus and its final goal." Along the same lines, here is Srnicek and Williams (2015: 108): "we must project an open-ended escape from the present, rather than a mechanical transition to the next, predetermined stage of history."

[2] Here is Escobar (2015: 452): "I use the term 'transition' rather than 'transformation' since this is the actual term used by most of the frameworks discussed here. […] However, it seems to me that most [transition approaches] imply a radical notion of transformation at many levels."

[3] Even though this stance is not consensual, with certain authors remaining highly critical of the Transition movement, for example Taloté (2015: 182, mt) calling it a "timorous and unfinished version of the degrowth project," Chatterton and Cutler (2008) describing it as apolitical, and Trainer (2010, 2018) accusing it of not explicitly acknowledging the necessary reduction in living standards.

[4] "Revolution does not mean civil war or blood bath. A revolution is a change of certain central institutions of society by society itself: an explicit self-transformation of society, condensed into a short time" (Castoriadis, 2005: 229, mt).

discussed at all, I believe that bridge design can be a valuable first step in discussing societal transformation, if only because it will lead to discussions concerning its politics.

What I intend to offer in this part should not be confused with a political programme for degrowth. Even if it is that as well, my main objective is rather to elaborate a framework for making political programmes. It is not one finished blueprint, but the mould to make many of them; not a black box, not a secret recipe, only choices I made in a certain way but that could be – and sometimes should be – made differently. The policy maps include a wide diversity of options, including ones not currently considered within the degrowth literature, in order to accommodate for various cultural and political settings. I also spend considerable time justifying specific decisions in order to make my policy design explicit, which allows readers to make different decisions along the way should they disagree with mine. The goal is not simply to prescribe a series of pre-crafted designs to a specific political party, syndicate, or trade union, but rather to provoke, inspire, and animate discussion between a diversity of actors.

Another disclaimer: I try as much as possible to put numbers on proposals but one should remember that there is no such thing as a "correct" rate. The setting of a maximum wage, for example, just like the setting of any limits relating to social organisation, is a political matter. This comment applies to all the policies I will develop. Degrowthers often argue that one should not put numbers on proposals for that it is ultimately a matter of democratic deliberation. While I agree, I still think the discussion can be richer if precise proposals are put forward, let it be to be agreed or disagreed on. I put numbers on policy proposals as to render them more concrete and ultimately for them to lead to richer discussions; but one should remember that these numbers are merely illustrative.

This exploration of recipes for degrowth is structured in five chapters. In Chapter 8, I make an inventory of the policies that have been associated with degrowth until now and reflect on the quality of these agendas. Chapter 9 is about transforming property; I decompose that strategy into three goals and a number of policy instruments to achieve them. The structure of chapters 10 and 11 is identical, except that it deals with the topics of work and money. If Chapter 9, 10, 11 select ingredients, Chapter 12 offers a method for making recipes by studying the interactions between individual policies within one coherent transition strategy.

Chapter 8

Strategies for change

BECAUSE there can be no recipes without ingredients, the purpose of this opening chapter is to make an inventory of all the policies mobilised by degrowthers. Let it be reforms such as work time reduction and income taxation, structural change like sovereign money and job guarantee, or practices in the likes of shared gardens and time banks, a diversity of interventions has been proposed to make the degrowth model a reality. These rest on implicit theories of change (i.e. assumptions and expectations behind a specific strategy) and take the form of explicit actions (i.e. the actual changes that are either promoted in the name of degrowth or that find meaning through it).

The chapter is structured as follows. I start by categorising strategies depending on attitudes towards change and the level at which they are expected to take place. The second section is conceptual and details what a policy is and what does it mean to engage in policymaking. In the third section, I use this conceptual framework to scan the literature for degrowth proposals. In the final section, I do precisely the same but this time looking at a selection of citizen entries at the *Grand Débat National* that followed the 2018-2019 Yellow Vests Movement in France.

Strategies for change

How does social change happen? And how to make social change happen? While it would be foolish to attempt answering this question, I can posit without taking too much risk that any form of social change requires a shift of *attitude* for specific *actors* at different *levels*.

By attitude, I mean the intellectual and emotional position that one actor takes towards the world. The activist John Jordan famously said that resistance and alternatives are "the twin strands of the DNA of social change." But perhaps, this is too black and white. One never completely resists or completely emancipates; these rather form the two ends of a spectrum. In the middle lies a vast grey areas of more or less extreme reactions.

As for *actors* and *levels*, I fall back on the four spheres of society I used previously: individuals in households, associations in communities, buyers and sellers on markets, and public servants and elected representatives in governments.

Attitudes

Ignore, fight, or flight. Following the classification of Demaria et al. (2013) and others,[1] the different degrowth strategies can be divided into three ideal-types attitudes each embracing a different theory of change: *opposition* (acting against what is so that it stops to be), *reformism* (using what is to create something else), and *alternative* (creating a substitute to what is as to make it obsolete). The first one contests the prevailing system, the second one tries to modify it within the system, and the third tries to construct something else outside of it.

Opposition

The first category refers to what Demaria et al. (2013) call "oppositional activism" or activities and principles that aim to resist the ideology of growth in all the forms it takes. Standing against a system they consider unfair, these "uncivil actors" (D'Alisa et al., 2013: 214) undertake actions to throw sand in the machine. The logic behind such attitude is that, by removing all that is undesirable, one might reach a more desirable society; if enough people say no and get to the streets, change will happen.

Those include coordinated or uncoordinated mass actions, "Zones à Défendre" (Zones to Defend) or "Blockadia" (Klein, 2014) that attempt to stop the construction and expansion of mines, dams, highways, airports, high speed trains, nuclear power plants, and other infrastructures; tree sitting to prevent the cutting down of old-growth forest or the "valve turner" who interrupt the flow of oil and gas in pipelines; the "artivism" (Jordan, 2016) of clowns kissing police riot shields and flash mobs; lobbying and campaigning, blockades, absenteeism, sabotage, subvertising, wildcat strikes and slowdowns, law suits, educational outreach, media hoaxing, critical mass, squatting of unoccupied buildings and strategic land, demonstrations, boycotts, direct action, and acts of civil disobedience, including the refusal to pay taxes or fines and repay debt.[2]

A famous example within the degrowth movement is Enric Duran, the "Robin Hood of the Banks" who took 68 loans on his name from 39 banks in Catalonia and for a total of 492,000 euros to finance various anti-capitalist movements and with no intention of repaying the debt. In French culture, degrowthers often point to the "ZAD" (*zone à défendre*) of Notre-Dame-des-Landes, a fight against the construction of an airport that led to an occupation of the land by activists. In Italy, it is a struggle against the "TAV" (*Treno Alta Velocità*), the construction of a high-speed rail line between Turin and Lyon throughout the Alps.

Other examples could be Greta Thunberg and her *skolstrejk för klimatet* (school strike for climate, mt) as well as the Fridays for Future movement that followed it; the occupation of

[1] This triple division is common. Wright (2013: 34) identifies three logic of transformation: *ruptural* ("creating new emancipatory institutions through a sharp break with existing institutions and social structures"), *interstitial* ("build new forms of social empowerment in the niches and margins of capitalist society where this is possible"), and *symbiotic* ("reforms that simultaneously make life better within the existing economic system and expand the potential for future advances of democratic power"). Anheier et al. (2001) speak of *rejectionism*, *reformism*, and *alternative*; Chatterton and Pickerell (2010) of *anti-capitalist*, *post-capitalis*t, and *despite-capitalist*.

[2] In his famous *Bodies upon the gears* speech (1964), Mario Savio, then leader of the student-led Free Speech Movement in the United States, captures this spirit as best as words allow: "There is a time when the operation of the machine becomes so odious, makes you so sick at heart, that you can't take part, you can't even passively take part. And you've got to put your bodies upon the wheels, and the gears and all the apparatus, and you have to make it stop. And you have to make it clear to the people who own it, and to the people who run it, that until you are free their machine will be prevented from running at all."

the Hambach Forest and the *Ende Gelände* (Here and No Further, mt) movement in Germany; resistance against the building of the Dakota Access Pipeline in the United States; the 2015 *Urgenda* climate case in the Netherlands and the ongoing *l'affaire du siècle* (the case of the century, mt) in France; the sabotage of fourteen grenade launchers belonging to private weapon manufacturer Bofors by Anna Andersson and Martin Smedjeback in Sweden; the Stay Grounded initiative since 2016; or the blockage of roads in London by Extinction Rebellion protesters in September 2019.

Reformism

Reformism is the strategy of acting for change *within* the system. It can be through accommodating laws already in place (e.g. reduce the maximum working week), changing the level of an existent tax (e.g. carbon, inheritance or financial transaction tax) or subsidy (e.g. to fossil fuels or television advertisement), or even by implementing a new tax (e.g. capital or progressive consumption tax) or passing new laws (e.g. public advertisement, bans on planned obsolescence, legalisation for local currencies) that would facilitate the emergence of local initiatives such as community currencies or not-for-profit cooperatives.

Not all reforms, however, are constrained to incremental changes. A division that is often made in the degrowth literature is between *reformist* (incremental) and *non-reformist* (revolutionary) reforms. This separation is the legacy of André Gorz (1968:7-8) who differentiated between "neo-capitalist" or "reformist" reforms that are possible within the framework of the current system and "anti-capitalist" or "non-reformist" reforms, which, in the spirit of French socialist leader Jean Jaurès's (1859-1914) *revolutionary reformism*, are incompatible with the preservation of the system and assume more structural transformations.[1] A reform is non-reformist when the seemingly incremental change it proposes results in a revolutionary regime shift; or to borrow words from Rosa Luxembourg (1898: 41) who held social reforms and revolution to be tied indissolubly, when "the struggle for reforms is its means [and] the social revolution, its aims."

A generalised working time reduction to, let us say, a 4-day working week would be a good example of a non-reformist reform as it would require other radical changes in the system to make it feasible. It is a revolutionary reform because it is not only a practical demand (to work less) but also carries the essence of a radically different society where work would no longer be the centre of social life. Put another way, it carries potentially more than what is directly expected of it.

Alternatives

The last category consists in building alternatives to the practices, structures, and cultures that are deemed incompatible with degrowth. It is a vision of change where societal transformation requires frontrunners, that is innovative niches that experiment with alternative systems of provision and lifestyles before those can be scaled up as to become a new system.

[1] "a non-reformist reform – or anti-capitalist reform – is the one which does not base its validity and its rights to exist on capitalist needs, criteria, and rationales. A non-reformist reform is determined not in terms of what can be, but what should be. And finally, it bases the possibility of attaining its objective on the implementation of fundamental political and economic changes […] they assume structural reforms" (Gorz, 1968: 7-8).

These "laboratories for liberation"[1] (Muraca and Döring, 2018: 35), "liberated spaces" (Baschet, 2014: 157, mt), or "spaces to practice a new reality" (Kliemann, 2016) carry the seeds of new potential systems. Often referred to as *interstitial* or *prefigurative* strategies,[2] these utopian alternatives educate desire for something else than the institutions in place – people "live in this world as citizens of another" (Levitas, 2013: 220), and as such brings that alternative world closer to reality.

For example, voluntary simplicity promotes certain individual behaviours such as the use of bikes over cars and vegetarian or vegan diets over meat- and dairy-based food. Sharing networks (e.g. bike, car, home appliances) are examples of collective practices that provide an alternative to individual private ownership. The *Well-being Budget* first launched in 2019 in New Zealand is a good example of an experimental structure that could one day be mainstreamed to replace the current international system of national accounts.

As for alternative institutions, they can take the form of, for instance, community currencies, reclaimed abandoned factories, bike kitchens, makerspaces, shared gardens, consumer or producer cooperatives, or neighbourhood councils. These are all alternative sets of socially shared rules, norms, and habits that coordinate, in this case, monetary activity, consumption or production, and local politics.

Actors and levels

Any action requires someone to change their behaviour and a level at which the change is expected to happen. I have divided these actors into four spheres of change: (1) individuals at the household level, (2) associations at the community level, (3) buyers and sellers at the market level, and (4) public servants and elected representatives at the government or State level. Combining the previous framework with this one gives us four spheres of change where three different attitudes can be applied. For example, not eating meat can be seen as *oppositional* at the *household level*, banning public advertisements would be a *reformist* action at the *government level*, while a self-organised day care centre would be an *alternative* action at the *community level*.

Table: Summary of possible actions with examples

	1 - oppositional	2 - alternative	3 - reformist
A - household	**A1**, *refusal to fly*	**A2**, *home grown food*	**A3**, *working less*
B - community	**B1**, *Guerrilla Gardening*	**B2**, *local currency*	**B3**, *car sharing*
C - market	**C1**, *ban palm oil*	**C2**, *new electric car*	**C3**, *tax on throughput*
D - state	**D1**, *close tax heavens*	**D2**, *basic income*	**D3**, *4-day workweek*

[1] Muraca and Döring (2018: 35) describe them as "laboratories for liberation are protected spaces where subversive practices and alternative modes of subjectivation can be experimented. In such spaces, alternative ways of conceiving needs, desires, and their satisfaction, are not only envisioned, but also experienced. By provisionally suspending the pervasive impact of dominant social imaginaries, social experiments can crack open the established understanding of what is considered to be real and give room to alternative imaginaries, practices, and experiments of common living."

[2] Trainer and Alexander (2019: 259), two prominent eco-anarchist scholars, explains the rationale behind this attitude: "What is to be done instead is to work to prepare for the building of sensible systems as the existing system continues its deterioration."

Household

The first sphere of change describes what happens within the household, and for degrowth, it corresponds to the behaviours associated with voluntary simplicity. This strategy for change relies on the emergence of new subjects who would embody the values of degrowth (e.g. leisure over work, empathy over greed, cooperation over competition, sharing over possessing, enough over more, slow over convenient). This is a bottom-up strategy where the simple living of individuals is expected to trickle-up and create a social and physical infrastructure conducive to degrowth.[1] Examples of policies include:

A1 Oppositional: refusal to fly, to have a car, a mobile phone, a smartphone, a television, or a computer; conscious procreation.

A2 Alternative: vegetarian or vegan diets and slow food; cycling and slow travel; co-housing and eco-habitat; staycation, home-grown, organic fruits and vegetables; hitchhiking and shared travelling; dry toilets and composting.

A3 Reformist: reduced work hours; minimising material possessions (e.g. The 100 Things Challenge); limiting energy consumption (e.g. Switzerland's 2,0000-W society initiative); reducing household waste; thermic rehabilitation of buildings.

A change in individual behaviour is necessary but not sufficient. Indeed, the decision to downshift is a coordination problem where, like in a prisoner's dilemma, the outcome for one depends on the decision made by the other(s). If I am the only one (or just the first one) to decide to bike to work, I will probably have to take the risk to cycle on the main road (because without a sufficient number of cyclists, why would public authorities invest in cycle lanes?), I may have troubles finding a place to safely park my bike at work as well as to be able to take a shower there (because without a sufficient number of cyclists, why would people accommodate for such things?), and I may have to cycle alone and not being able to share the experience with others. The only viable solution to that problem is reached at the *community level* where a critical mass of individuals decides to shift their behaviour together as to benefit from their togetherness (e.g. the Critical Mass cycling events with their motto: "we don't block the traffic; we are the traffic").

Moreover, assuming that changes in individual lifestyles precede discussions at the *government level* risks undermining potential for a healthy democracy. That is, a society built by isolated individuals is likely to be a society of isolated individuals: if all members of a household or community set their own standards, democracy becomes the bargaining of a compromise on decisions that have already took place. Alternatively, individual changes should be embraced while being embedded in community and government changes for that there is always a constant retroaction between individual and collective standards of living.

Finally, this approach if fundamentally limited if understood as relying on choices of consumption at the *market level* with consumers presumably "voting with their wallets" as to express which goods and services they deem worth being produced. The idea of a wallet democracy is premised on the assumptions that (a) there is sufficient economic equality (a

[1] Of course, because no action is ever fully individual, one should be careful with the division between *lifestyle* (individual) and *movement* (collective). Sometimes, practices exhibit a bit of both – what Haenfler et al. (2012) call "lifestyle movements."

situation which clearly does not pertain at the moment),[1] that consumers are (b) well informed about products and immune to the persuasive influence of advertising and (c) rational decision makers that do not let quantitative criteria (price and volume) affect their thinking.

A degrowth transition relying on such an approach would deserve to be criticised as "bourgeois primitivism"[2] (Correia, 2012). There is, however, little use in revealing the falsity of such assumptions because even if all the conditions were reunited for a perfectly democratic market, this system would still rely on an undesirable extension of the commodity domain.

Community-level

The second sphere of change extends from the behaviour of one individual or household to a group of them deciding to transform collectively, generally at the scale of the neighbourhood, village, or city. It takes the form of a modification, removal, or creation of an institution in line with the ideals of degrowth and often with the intention of building a counter-system of alternatives that would render individuals and communities independent from the growth system. This is the preferred sphere for *alternative* changes and *oppositional* changes.

Examples of modes of provision: makerspaces, hackerspaces, and fablabs; decentralised renewable energy cooperatives and other community energy schemes; communal kitchens, workshops, and laundry; healthcare, elder care (e.g. Fureai kippu in Japan), and child care cooperatives (e.g. Kidoop in UK); producer cooperatives; urban, shared gardens (e.g. Incredible Edible, Vergers Urbains, Guerilla Gardening); alternative food networks (e.g. Community Supported Agriculture); village seed banks; alternative day care and schools; housing cooperatives, co-housing, rural and urban squats; technological audits favouring convivial technologies.

Examples of modes of exchange: ethical banks and credit (financial) cooperatives; community currencies, barter markets, time banks, and Local Exchange Trading Systems (mutual credit systems).

Examples of modes of usage: mutual aid associations and peer-to-peer learning networks; consumption sharing (e.g. car-sharing, Couchsurfing); consumer cooperatives; bourses d'échanges (e.g. clothing swap); copyleft, open source, free software, and free culture movements; movement for *la rentrée sans marques* (start of the school year without brands); Buy Nothing Day; A Week Without Television; car-free Sundays.

Example of living arrangements: eco-village and eco-commune; neighbourhood parties; comité de quartier (e.g. neighbourhood's watch); participatory budgeting (e.g. Porto Alegre).

The community-level is the most fundamental for degrowth. Indeed, the community is the backbone of any degrowth transformation in the sense that it remains the non-variable factor of organisation, compared to markets and governments that are themselves expected to go through considerable changes. Everything can change but the community will be what the community will be. Also, if one understands the community in geographical terms (a neighbourhood and

[1] In France for the year 2012, the remaining purchasing power after incompressible expenditures was of 80€ per month for the 10% of the poorest households against 1,474€ for the richest decile (CNLE, 2012).

[2] "a form of bourgeois environmentalism that locates environmental degradation *solely* within the sphere of consumption and the problem of environmental degradation as something not inherent to capitalism itself but to the consumption choices of individual consumers" (Correia, 2012: 109, italics in original).

not a community of users, for example, Wikipedia), it is the one and only level at which direct democracy is possible.

A change at the community-level, however, is likely to fail without the support from the three other spheres. The main reason why local currencies collapse is because individuals who were managing them move out and that nobody cares to replace them. Car-sharing schemes rely on particular form of car insurances and renewable energy cooperatives on parts both sold by private companies at the market-level. Community Supported Agriculture are more likely to work in places that are not saturated in supermarkets, which make them look inconvenient in comparison. And urbans squats can endure if the State does not carry evictions.

Market-level

This category can be considered another type of community-level change, albeit concentrated around markets. It deals with the changes in the behaviour of sellers and buyers that are expected from different terms of trade.

C1 Oppositional: limit on excessive interest rate; constraining ability of commercial bank to create money by rising reserve ratios; divestment.

C2 Alternative: organic and fair trade products; promotion of small scale, self-managed/self-directed, not-for-profit companies; servitisation; social enterprises, slow business, public interest companies; organising businesses as producer cooperatives; proposing new more environmentally-friendly products.

C3 Reformist: progressive consumption tax (tax on positional/status good); eco-taxes such as carbon, road, waste taxes; taxation shift from labour to throughput; green and ethical custom tariffs; Tobin tax; tax on profit, corporate income tax.

One could argue that from a degrowth perspective, market changes are a cure worse than the disease itself as they perpetuate the dominance of the economy over other spheres of life that degrowth combats. Yet, in an over-marketised society, markets can be powerful leverage points for change provided that the impetus that changes them is not a market force itself. For example, if Tesla were able to bring to bankruptcy all the other car manufacturers that does not sell electric cars, it would be desirable from an *outcome* perspective (increasing the relative number of electric cars) but not from a *process* perspective (this action being motivated by profit and undertaken by a handful of individuals). Market changes must be embedded within broader ones in the three other spheres and thus remain more of a wagon than a locomotive.

State-level

The last sphere of change concerns the nation state and the policies it can implement. In theory, public authorities can be *reformist* (modifying an existing law, for example by banning advertisement targeting children under sixteen), *alternative* (creating a novel institution like a job guarantee), and even *oppositional* (suing transnational corporations for misconduct or conducting embargo with certain countries).

D1 Oppositional: extraction moratoria and pollution caps; debt jubilee; limitation/pénalisation des systems de franchise; loi contre les distributeurs automatiques dans les établissements

scolaires; interdiction of motorised sports; ban advertisement (a) in public places, (b) that target children under 12, (c) or the one unrequested via post or phone; abandonment of large-scale infrastructure such as nuclear power plants, dams, incinerators, high-speed transportation; prohibition of certain financial instruments, banning of high-speed trading, regulation of rating agencies, closure of tax havens and shadow banking systems, green macroprudential regulation; making planned obsolescence illegal; anti-discrimination legislation; public financing of electoral campaigns.

D2 Alternative: basic income; job guarantee; conservation and preservation of natural habitat (resource sanctuaries); defence and expansion of local commons and establishment of new jurisdictions for global commons; replace GDP with other indicators; citizen-debt audit; conversion of car-based infrastructure to walking, biking and open common spaces; replace WTO by WLO; carbon market (cap & trade or cap & share); international currency; support of women's reproductive rights.

D3 Reformist: work-sharing; financial regulations; capital and capital gain taxes; general reduction of speed limits; salary caps (based on max-min ratios); 100% inheritance tax; free access to education, health care, and social security; de-commercialization of politics and enhancement of direct participation in decision-making; subsidies to ESS; tax on international capital movement; Glass Steagle-Act; reforms against bank secrecy and tax havens; tax advertising; tax on nuclear waste; subsidies to alternative initiatives; open borders.

Because creating new institutions takes considerable efforts in reaching consensus, and because governments do not often share degrowth values to the point of defending them against powerful actors, incremental *reformism* is in practice the State's weapon of choice. The opinions of degrowthers are divided between those who think that the State is bounded to the status quo and others who argue that it is the only actor powerful enough to oppose resistance to corporations.

The inventory of Cosme et al. (2017) shows that the majority of changes proposed in the name of degrowth are in fact top-down, public policies, which would give credence to the latter view of the State as cornerstone of the transition.[1] Essentially, it is the strategy of using more State (top-down) in order to empower individual- and community-level changes (bottom-up), and to ensure that market forces facilitate that changes instead of opposing it. A good example of this would be the French *Law on the Social and Solidarity Economy* (2014) that legalised complementary currencies while leaving communities autonomy in their design and implementation.

With three attitudes towards change (*opposition*, *reformism*, *alternative*) and four spheres of change (*household*, *community*, *market*, *State*), degrowth transformations can come about in at least twelve different flavours. Out of these actions, and whether inside or outside the system, some are already implemented and need to be protected or modified (e.g. financial transaction tax and local advertisement taxes), some are currently developing and need to be encouraged

[1] The idea of a *top* and a *bottom* is only valid in a hierarchical society. Degrowth draws from anarchism in its desire to decentralise power to the point where there will not be a top and a below. "The revolutionary group must clearly see that its goal is not the seizure of power but the dissolution of power – indeed, it must see that the entire problem of power, of control from below and control from above, can be solved only if there is no above or below" (Bookchin, 1974: 47).

(e.g. consumer cooperatives and alternative currencies), and others are only imagined and need to be actively operationalised (e.g. basic income and emission cap schemes).

Policies and policymaking

Degrowth authors have called their recommended changes many names: solutions, transformations, demands, interventions, strategies, actions, proposals, interventions, reforms, or policies.[1] Bundled as such, these requests amount to nothing more than a bucket of wishes. In order to bring precision and logical rigour to the treatment of the how-question, one should be able to analytically differentiate between these elements. This is particularly important because degrowth is both a destination and a process, each involving a different set of constraints. So not only should we be clear about what a policy is, but we should also clarify how those are to be crafted. Defining *policies* and *policymaking* is the objective of this section.

Defining policy and policymaking

Since Lasswell's (1951) first envisioning of a "policy science," attempts at defining policymaking have been manifold. In a short decade starting in the mid-1980s, a field of scholarship developed around the notion of *policy design*,[2] which Dryzek (1983: 345-46) defines as "the process of inventing, developing and fine-tuning a course of action with the amelioration of some problem or the achievement of some target in mind." This ambition was short-lived and in the mid-1990s, policy design gave way for *governance*, a concept that seemed more fitted to a globalised, market-driven, world (Howlett and Lejano, 2012).

What I intend to argue is that policy design should be brought back. As I have explained in Chapter 1, the neoliberal mode of management favours the economisation of the political where the market does the organisation. If degrowth is about de-economisation, it necessarily involves more political intervention, that is more policymaking. But not all forms of policymaking are equally desirable; hence the question: Which type of policymaking for degrowth?

Policy

Let me start by clarifying the difference between some terms I have so far been using interchangeably. *Changes* can be either unplanned or intentional; in this later case, it is then an *action* or an *intervention* (even a *solution* if that the intervention is supposed to remedy a specific problem). This is the type of changes I will be looking at in this section. I will call them **policy** understood broadly, for example as defined by the Oxford dictionary as "a course or principle of action adopted or proposed by an organisation or individual." Defined that widely, any purposeful change in rules and customs that governs behaviour is a policy and anyone

[1] "Proposals" (Cosme et al., 2017); "changes or proposals" (Kallis, 2017); "transformations" (Petridis, 2016); "concrete institutional proposals and living examples" or "the action" (D'Alisa et al., 2015); "actors, strategies and policies" (Asara et al., 2015); "proposals and policies" (Videira et al., 2014); "policy instruments" (Ferguson, 2013); "interventions" (Kallis, 2013); "strategies and actions" (Demaria et al., 2013); "social action and politics" and "institutional changes" (Cattaneo et al., 2012); and "approaches, policies, and strategies" (Schriefl et al., 2008).

[2] For a history of the concept of policy design, see Howlett and Lejano (2012).

inventing, developing, and fine-tuning this intervention is a policymaker. Until these *policies* are actually enacted (i.e. broad into reality), I will call them *policy proposals* or *policy demands* (*proposals* and *demands* for short).

The key feature of a policy is that it is intentional. The government proposing and the parliament passing a law to render ecocide punishable by law is policy; the modification of a social protocol in a commons – for example, a change in negative interest rate on the emission of a local currency – decided by its organising committee is policy; a firm deciding to reduce bonuses, a group of universities deciding to boycott Elsevier, or a labour union deciding to call for a strike is policy; and a household reducing its meat consumption or installing solar panels on the roof is also policy. If it is an intervention that aims to achieve something that would have not otherwise happened, including both additive and subtractive changes,[1] then it is a policy. Following such definition, *politics* then become policy deliberation.[2]

It is not common to define policy that broadly. In common language, the term "policy" is often associated to public policy, that is State intervention or, as Anderson (1971) called it, "statecraft."[3] But as I will soon argue, a degrowth transition relies on a diversity of non-State actors (even though public authorities have an irreplaceably important role to play) and so if I want policymaking to include this diversity of actors, I must start by defining degrowth policies in the broadest manner possible.[4]

A degrowth policy is then *a course or principle of action adopted or proposed by an organisation or individual aiming to achieve the objectives of degrowth*. The "aiming" here matters; Piketty's capital tax became a *degrowth policy* only when it was picked up by degrowthers and added to their policy agendas. This does not mean that only the policies demanded by degrowthers could lead to, or be beneficial for, degrowth. Some, like full reserve banking or a tax on financial transactions, may have been crafted with different intentions but are in terms of outcome in line with degrowth as a societal project. Whereas I will in this chapter limit myself to what degrowthers have proposed, the rest of Part III will welcome additional policies on the ground that they could contribute to achieving degrowth.

Policymaking

Policy do not just exist, they are made. Policymaking is a process by which different actors work together to achieve a set goal. Put simply, policymaking is the art of solving problems; it is a trouble-shooting protocol agreed on by members of a group, and as such, it is a crucial aspect of democracy. The objective of policymaking is to resolve a problem in a way that is

[1] Policymaking is not only about adding new policies, it is also about removing existing policies. *Additive* policies are being introduced on top of existing ones; *substitutive* policies come to replace existing policies; and *subtractive* policies involve the removal of an existing objective or instrument.

[2] Certain policies are more political than others. If a policy is treated as a mechanistic reaction (e.g. the European Central Bank lowering interest rate in reaction to the risk of deflation), then it is less political than a discretionary policy that involves deliberation.

[3] It is this understanding of policy as statecraft that is often seen critically among anarchists – e.g. here Graeber (2018: 270) writes: "Another reason I hesitate to make policy suggestions is that I am suspicious of the very idea of policy. Policy implies the existence of an elite group – government officials, typically – that gets to decide on something (a 'policy') that they then arrange to be imposed on everybody else."

[4] Defined as such, the opposition between governance and policy design disappears. Governance is "the broadening of the notion of 'government' away from State-centered concept toward more diffuse, often boundary-spanning, networks of governmental and non-governmental actors" (Kooiman, 2003); and policy design is the process of decision-making that happens within this broader set of actors.

deemed superior than individuals attempting to solve the problem in a disorganised manner or by relying on fatality and chance. Another term to describe the same process would be *governance*, as "the process by which the repertoire of rules, norms, and strategies that guide behavior within a given realm of policy interactions are formed, applied, interpreted, and reformed" (McGinnis, 2011: 171).

But instead of policymaking, I prefer to speak of policy design (from now on, I consider them synonyms) to emphasise the fact that institutions are always consciously shaped.[1] Policy design is both a noun and a verb and so can be used to denote both an outcome and a process: *policy designs* as a synonym with policy and *policy design* as the process by which policy designs come to be made (May, 2003). I like the term policy design because it hints at what is currently required for degrowth, namely creating completely novel policy alternatives. My attachment to the term is not so much linked to *who* should author policy (remember I consider anyone to be a potential policymaker) but rather to the *what*: a process of problem solving that requires creativity and imagination. This can take the form of new mixtures of conventional policies (e.g. setting a ratio between minimum and maximum wage) or new policies altogether (e.g. job guarantee).

Talking of design emphasises the fact that the details of a policy are never chosen at random and that certain designs can be better than others. The underlying assumption is that a better understanding of certain factors leads to more effective policies. Indeed, even though policies do not design themselves, the effort put into their design vary. The difference is then between good and bad design; between one that is purposely careful, innovative, and fitting to its cultural context, and one that relies on pure political bargaining, improvisation, or unplanned trial-and-error.

In the same way that there are policies for degrowth, there should be a specific type of policy design for degrowth. And indeed, behind policy discussions lies a fundamental question about social change: Can – and should – society be designed? From the onset, the idea of policy itself seems at odd with the strong anarchist features of degrowth. How to "intervene" into society without this intervention turning into a source of heteronomy for individuals? And yet, if one dissolves the strong association we unconsciously make between policy and the State, and envision interventions within a participatory democracy, then policy design becomes nothing less than the collective process of deliberation about, and planning of, social life.

What degrowth requires is a new governance regime, that is, not only alternative policies, but a different way of imagining, elaborating, formulating, deliberating, implementing, and evaluating policies. Policy should not be treated as a bureaucratic, technocratic, and monocentric exercise of control, with experts using black-box models and inside information to advise the Prince and a managerial State acting solely via regulatory command-and-control strategies. Policy design should not be "top-down direction of all manner of human action" (Macdonald, 2005: 222-3). Unlike assumptions in neoclassical public choice theory, policymakers are not fully rational and there is often no clear optimal policy outcome that delivers an agreeable and calculable "greatest net benefit," such as, for example, an "optimal

[1] By this I do not mean that everything about an institution is consciously shaped. Of course, certain institutions are emergent property of disorganised interactions (a *spontaneous order*), for example language. But even language requires intentional intervention in the making of dictionary, the design of curricula, linguistic conventions on road signs etc. If we are right in thinking that there is no such thing as a truly spontaneous order, then it means that any institution is *designed*.

tax progressivity" (Mirrlees, 1971). Policymaking is not quantitatively-based rational choice and politics is not microeconomics. Instead, policymakers, just like everybody else, only have a bounded rationality that make them prefer satisfactory solutions over optimal ones (Simon, 1957, 1976). They are often prone to favouring policy-as-usual (path-dependency), and are influenced by a variety of cultural predispositions. To use only one word, policymaking is better described as a process of "muddling through" (Lindblom, 1959).

It is not because one speaks of a "policy science" that policymaking becomes scientific. Another trap is to believe that policies are post-ideological, that they should purely be based on evidence like in the term "evidence-based policy making." Of course, information and knowledge matters.[1] But perhaps it is more fitting to speak of "evidence-*informed* policy making" (Nutley et al., 2007, italics added), acknowledging that information is only one factor to ensure policy success. "[P]olicy making is more a 'craft' than a science; the 'art of the possible' rather than the 'art of the optimum'" (Sanderson, 2009: 699).

In fact, policy making is the vehicle of ideology. If ideology itself is invisible, it materialises in the form of policies. Policies are the visible part of the political imaginary, and policy design is inherently purposeful, that is serving peculiar values and interests (Larason et al., 1997: 3). Instead of being treated as a technical exercise, policymaking should be understood as inherently political, that is "not just concerned with the 'instrumental' notion of 'what works' but rather with a broader 'practical' notion of what is 'appropriate' in the circumstances" (Sanderson, 2009: 711). This is why policymakers must deal not only with *uncertainty* having to do with knowledge but also with *ambiguity* having to do with values (Forester, 1993).

What degrowth demands is an open, transparent, pluralistic (in terms of value and knowledge), participatory form of policymaking where, not one, but a diversity of actors think together to decide how they should act as to address a specific issue. Here I draw on Ostrom's (2010) notion of "polycentricity" where governance happens across different actors and levels. Even the most elaborated policy agenda will have little value if it was designed by a room of experts, kilometres away from the actual problem.

Policymaking should be considered not only as the planning of an action but as itself an action. A universal basic service scheme will be deemed successful if it was democratically crafted and if it achieves its objective – both conditions being equal in importance. In order to be transparent and participatory, deliberation should understandable by all. Decision-making power should be decentralised and simplified to the point where policies can be understood, deliberated, and agreed on in small congregation of non-experts. Remembering Illich (1973), perhaps one could call this *convivial policymaking*.

Every policy should be treated as an experiment. Associating policymaking to the pragmatism of John Dewey (1859-1952),[2] Sanderson (2009: 700) talks of "intelligent policy making": "treat our policies as hypotheses to be tested in practice, to be piloted where feasible

[1] Policymaking requires a specific type of knowledge. Weiss (1991) distinguishes between three types of policy-relevant knowledge: *data* to clarify the situation (e.g. knowing how many people are unemployed), *ideas* to develop a response (a job guarantee scheme), and *arguments* to justify a preferred course of action (why the job guarantee scheme is superior to its alternative, for example job-sharing or a removal of the minimum wage).

[2] "policies and proposals for social action […] be treated as working hypotheses, not as programs to be rigidly adhered to and executed. They will be experimental in the sense that they will be entertained subject to constant and well-equipped observation of the consequences they entail when acted upon, and subject to ready and flexible revision in the light of observed consequences" (Dewey, 1954: 202-3 cited in Sanderson, 2009: 711).

and appropriate and to be subject to rigorous evaluation, and in which we learn from these processes and apply the intelligence thus gained to future policy thinking and decisions." In Chapter 6, I defined the ideal of an autonomous society as being in a constant self-reflective movement, and so policy should not only be seen as the end result of a deliberation, but also as the research question of a new deliberation to come. This requires policymakers to be prudent and humble, placing themselves in a situation where they are willing to learn.[1,2]

Elements of policy design

A policy can be decomposed into a number of elements: goals, objective, targets, instruments, rationale, assumptions, actors, and timing. To simplify, I organise these elements into four sections: *why* (problems to be solved), *what* and *how* (goals, objectives, and targets; as well as methods, instruments, and calibrations), *who* (target population and agents of implementation), and *when* and *where* (timing and mapping).

Policy problems

Policy design always starts with a problem, but not any problem. A policy problem should be framed so that it is solvable via intervention. Climate change is a badly chosen policy problem; in contrast, the increase of emissions of greenhouse gas from, let us say, aviation frames the same issue in a way that invites action. A badly defined problem is likely to lead to a failed policy. Pitfalls are manifold. A problem can be too broad (e.g. homelessness) or too narrow (e.g. gingivitis among the homeless). A middle ground would be to define the problem as a lack of access to healthcare, and more precisely dental care among the homeless.

The framing of the problem predetermines the nature of the policy. If the problem is that a large bank is about to go bankrupt with potentially disastrous consequences for the financial system, it invites for a *reactive policy* attitude. A *proactive policy* attitude, on the other hand, would frame the problem as an inherently instable financial architecture with the objective of, for example, dissolving too-big-to-fail banks.

The *why* is sometime difficult to differentiate from the *how*, and indeed these are qualitatively similar objectives, albeit on a different timescale. The implementation of a policy instrument can itself become a policy objective, which would then require a new set of enabling instruments. For instance, let us say that the primary goal is to *reduce inequality*, via the objective of *reducing the salaries of the highest-paid*, through the implementation of a *salary cap*. But perhaps the implementation of a salary cap requires a strategy of its own. The goal would then be to implement a salary gap, via the convincing of the broader public that it is an appropriate policy, and through the organisation of a national referendum on the topic. At this point, it should be obvious that the process can continue *ad infinitum*. What this means is that one must be aware of hierarchies between goals, objectives, and instruments while elaborating policy agendas.

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[1] "intelligence is brought into the process of deliberation – intelligence comprising our best available social scientific evidence, the practice wisdom of those who are experienced in dealing with social problems 'on the ground' and the 'common sense' or those who experience such problems" (Sanderson, 2009: 713-4).

[2] Going in that direction, Elliot and Kiel (1997: 73) speak of "gentle policy action," Rescher (1998) of a "trial-and-error approach to policy making," Leicester (2006) of "reflection in action," and Campbell and Russo (1999: 13) of an "experimenting society."

Ends and means

There are *policy ends* (what the policy is supposed to achieve) and there are *policy means* (how to achieve them). Each of these categories can be further subdivided into several, allowing more policy precision. I will here follow the typology of Howlett (2011) who identify six components of policy design. The end of a policy can be framed as

(1) goals,
(2) objectives, and
(3) targets.

And the means can be framed as an

(4) implementation style (what I will call *method*),
(5) an operational policy tool (an *instrument*), and
(6) a calibrated policy tool, that is one with specific ranges.

Let me illustrate with an example. Mitigating climate change is a *goal* (1), for which one *objective* (2) could be to reduce the consumption of cars emitting more than 95 gCO_2/km, with a *target* (3) of 0 by 2021. A *method* (4) to achieve this objective could be to make such cars relatively more expensive to their low-emission alternatives; a feebate system is an *instrument* (5) that fits this rationale, and it could be *gauged* or *calibrated* (6) as any specific quantitative level. All of these elements together constitute a *policy agenda* or *policy strategy*.

Policy ends: goals, objectives, and targets (GOT)

A policy end can be divided into an abstract general *goal* (e.g. improve air quality), operational *objectives* that are expected to achieve the goal (e.g. reduce the burning of green waste), and concrete *targets* that sets a measurable level after which the goals and objectives can be considered attained (e.g. reduce the burning of green waste by 50% to maintain Air Quality Index below 100). Taking chess as an analogy, the goal is *strategy* (e.g. checkmating the king) whereas the objective is *tactics* (e.g. taking control of the centre, developing pieces etc.), which can be further quantified into specific targets. The relation between goal and objective involves causal assumptions about reality: Is reducing the burning of green waste an adequate way of improving air quality in cities?

This subdivision of policy ends into more local, shorter terms objectives will be crucial to compare different degrowth transitions. Not only are degrowth policymakers dealing with complex, highly-uncertain, and interconnected social-environmental issues whose conditions can change rapidly (e.g. climate change), but they are also acting on social desires that are themselves changing. This should not be considered a problem for that it is a constitutive feature of any democracy, and especially of participatory ones. The objectives being constantly open for discussion, they are likely to change. Whereas the governing principles of degrowth (Chapter 6) remain the same, objectives to reach them will vary in time and space. Moreover, it is also possible that completely new goals emerge in the process of decision making.

Policy means: method, instruments, calibration (MIC)

A policy means can be divided into an abstract *method*, that is a style of implementation (e.g. influence prices on markets), operational *instruments* that fit the method (e.g. a tax on kerosene), and a specific calibration of that instrument (e.g. 0.33€ per litre).

Policy instruments (or policy tools) are all the techniques/institutions/procedures at the disposition of a policymaking community to implement what they defined as their goals and objectives. I differentiate between *legislative tools* (e.g. fine, ban, quotas, quality standard, licence, access restrictions) *economic tools* (e.g. subsidies, taxes, tariffs, grants, loans, fees, in-kind transfers, price control), and *cultural tools* (e.g. information, awareness raising, education, experiments, routines, nudges). The choice of the instrument can make all the difference. For example, Sandel (2012: 65-79) shows that in a diversity of cases ranging from speeding tickets, video rentals, carbon-offsets, and the Chinese one-child policy, a fine is more effective than a fee, even though they may be of the same level.

Diversity of instruments is key. Being able to fix bikes require a diversity of tools, each adapted to whatever bike and whatever problem is at hand. Planning and enacting a degrowth transition is just the same: because situations are bound to be diverse, one must carry a heavy policy toolbox. This is especially true because different communities have different policy styles, meaning that they hold preferences for specific instruments over others, and this regardless of the problem at hand. If instruments are several, there can be either complementary (working together in achieving the goal) or in conflict (working against each other).

When thinking in terms of transition scenario, one must not only consider the first wave of policies, but also the second, the third, and so-on. One should acknowledge that in the same way that politics shapes policy, policy also shapes politics back. Favouring a specific type of instrument, let us say a tax, in T_1 create a path dependency and make it more difficult to choose a different policy instrument in T_2. This is the trickiest aspect of designing a transition programme, one should consider each policy move as a stepping stone towards another move. The goal being to always keep the horizon open enough to be able to keep moving forward (i.e. to not close down the horizon of political possibility via policy choices).

Another subtlety is that one policy means can fulfil several policy ends. For example, setting a shorter working week in law can both reduce emissions and work-related illnesses. In general, it is a rule of policymaking that each objective should have its specific instrument and that the number of objectives should not exceed the one of instruments – the so-called "Tinbergen Rule" named after Dutch economist Jan Tinbergen (1952). As a rule of thumb, it means that a good policy map should look like a cone with the narrow end on the left (few policy goals) and the broader end on the right (many policy instruments).

Target population and agents of implementation

Whose behaviour needs to change as to resolve a particular problem? A policy can target one or several populations, either all at once, or through a causal chain (e.g. targeting sellers of a certain product as to impact buyers). The *agent(s)* are the one(s) delivering the policy to the *target populations*. Agents have the power to act under mandates they receive from statutes or on the basis of directives received from other agencies. Agents apply the tools, rules, and

rationales developed at earlier (or higher) points in the policy chain, but they also create new tools, rules, assumptions, and rationales for themselves" (Larason et al., 1997: 89).

Using the term "agent" should be a reminder that people implementing a policy have a certain agency over its content. "Because policy designs contain an architecture or blueprint of the policy content as it is received or produced by any actor in the system, policy implementation can be measured by the difference between the design received and the one produced by a particular actor in the system" (ibid. 89). It is what Larason et al. (ibid. 90) call "grassroots designs." Grassroots design come closer to the governance I envision for degrowth for that it "allocates discretion of most of the critical aspects to the lowest-level agents within the formal governing structure."

Because I previously defined four spheres of economic activity, there is therefore four types of interventions. This has not to do with the area where policy is to have effect but to the actors would take responsibility to craft policy – the policy formulators, makers, or designers. For instance, if the State introduced a salary cap in financial firms, it is then considered *public* policy; but if the salary cap results from the decision of one individual firm or a sector agreement (that is if companies regulate themselves), then it would be *private* policy.

This being said, I further distinguish between *private* (individuals, households, firms, organisations) and *public* (State at its many levels, e.g. municipal, regional, national, international). This focuses on who enacts the policy and not where it comes from. It does not matter who created, lobbied for, and crafted the proposal, and if it was one person or a thousand; if it is proposed and/or enacted by the government, it is *public* policy; if it is proposed and/or enacted by any other body, it is *private* policy.[1]

A note of caution is important. The government is not one clear, homogenous actor, but a conglomerate of specialised agencies. In France, the executive power is in the hand of the present, prime minister, ministers, and secretary of State, while the legislative power is the parliament, itself including the National Assembly and the Senate. In addition to various judicial authorities (e.g. diverse courts, councils, and prefectures), this is what is commonly referred to as the government. But one should also add the regional councils, departmental councils, and most importantly for degrowth, municipal councils. One could even include the so-called liberal professions which are regulated directly by the State, as well as the employees of private firms under public contracts, which could be considered indirect public servants.

Timing and geography

Policies are anchored in time and place; this is the *where* and the *when* of policymaking. Policy boundaries have to do both with the policy space (the specific sectors or geographical area where the policy is to be applied) and policy timing (the time horizon between implementation, effects, and evaluation). To follow with my previous examples: improve air quality *in Paris*, reduce the burning of green waste by 50% *by 2021*. And same for instruments: influence prices on markets for flights *within the European union*, a tax on kerosene taking effect on *January 2020* at a level of 0.33€ per litre and *gradually increasing by 50% every year*.

[1] By differentiating public from private, I do not mean to reinforce the simplistic dichotomy of Market versus State. As I stated in the introduction, I divide the economy into, not two, but four spheres (household, commons, market, state). To be rigorous, one should then distinguish between *personal policy* in the household, *commonal policy* in commons, *public policy* in the sphere of government, and *market policy* for commercial actors like firms.

A bit like in a human body, certain ailments require local treatment with quick application while others require a whole-body medication that takes more time. The same applies for policy. Taxing capital gains will have little effect if money can be hidden elsewhere (e.g. to tax heavens) and a nation-wide tax on fuel is likely to leave the poorest disadvantaged if the mechanism of redistribution comes too late after the tax, or not at all. If the goal is to mitigate climate change via a reduction of greenhouse gas emissions, it is obvious to all that a carbon rationing will be of little effect if it only concerns a minority of polluting firms (e.g. European Trading Scheme).

A policy is an intervention and an intervention should have a start and an end. The question having to do with when should a policy be implemented, when should it be evaluated, and when should it cease to have effect is what I refer by the *timing* element of policy design. The bailing out of the banks by the American government in 2008 or the withdrawal of the tax increase on petrol in France at the beginning of the Yellow Vests Movement in 2018 is a good example of a policy intervention with a crucial time aspect.

One final observation. There is a difference between *policy continuity* and *policy change*, and each requires its own mode of political reasoning. Policy continuity consists in maintaining a policy constant in a changing world, the rhetoric often being that problems will arise should we remove the policy (e.g. public subsidies to fossil fuels). Policy change, on the other hand, requires a fine-tuning to a new situation, the argument being that the absence of policy – or the form that current policies take – is harmful and should be changed (e.g. a carbon tax). For degrowth, the situation is rather of policy change. Even further, it may require *policy innovation*, that is the creation of policies (types of interventions) that have never existed before (e.g. legislation to support complementary currencies or a universal basic income).

I defined policy as *any course or principle of action adopted or proposed by an organisation or individual* and policy design as the process of making policies. Any purposeful change in rules and customs is a policy and anyone inventing, developing, and fine-tuning this intervention is a policymaker, regardless of where that process happens. Always starting with a concrete problem, a policy includes two elements: ends (goal, objective, and target) and means (method, instrument, calibration). These elements detail whose behaviour needs to be changed (target population), who will be delivering the policy (agents of implementation) as well as at which levels (geography) and following what schedule (timing) should the policy be implemented. Now conceptually equipped to study policies and policy design, let us turn to the actual policies that have been mobilised in the name of degrowth.

A repertoire of degrowth policies

Which policies have been proposed in the name of degrowth? Like a magnet, degrowth has been attracting a diversity of policies from other contexts, which one often finds in the literature in the form of a list of demands. Sometimes detailed sometimes vague, sometimes focusing on objectives sometimes on instruments, sometimes hierarchised sometimes not, these lists are varying in form and content.

The task of the present chapter is to inventory all these proposals, which I will do using the categories I just presented. I will start with the only existing repertory of degrowth policies (Cosme et al., 2017). I will then add the ones of the French degrowth party during its six campaigns between 2007 and 2019, the ones of the Finnish *kohtuusliike* during the 2019 campaign, as well as a number of lists from individual authors. The outcome of this part is a complete list of all these policy proposals (available in Appendix 5).

"A review and analysis of academic degrowth policy proposals"

As of today, there is only one study that has attempted to inventory degrowth proposals. Screening 128 peer-reviewed articles up to the year 2014 with keywords like "policy," "instruments," and "measures" on the discourse analysis software NVivo, Cosme et al. (2017) posed the following question: "What does sustainable degrowth perspective mean in a policy-making context?"[1] The authors classified the proposals in three goals having to do with ecological sustainability, social equity, and conviviality/democracy.[2]

Using my classification, I can count **3 policy goals, 39 policy objectives, and 27 policy instruments** in total, even though the lack of precision in the description of some of the proposals makes the distinction difficult (the full list of policies is available in Appendix 1). In doing so, I have taken the liberty of re-organising the categories of proposals which I found incoherent, and renaming certain proposals themselves, which were lacking precision. For each goal, the authors list the most popular demands: 4 for the environmental goal, 8 for the social goal, and 3 for the conviviality/democracy goal.[3]

Cosme and her colleagues reach four conclusions. First, the majority of proposals (75%) are top-down, public policies with a national focus of implementation (this is followed by local, and only then international). Second, degrowth scholars focus more on social equity than on ecological sustainability. Third, the proposals are unclear for that they lack details.[4] Fourth, some issues are neglected (e.g. population and the implications of degrowth for developing countries).

The Cosme et al. (2017) study is not an ideal starting point. The list is not structured enough. From three overarching goals (reduce environmental pressures, reduce inequality, and strengthen democracy), one goes directly into proposals (with no objectives in between). Besides, the discourse analysis (NVivo) methodology they used is likely to have missed certain subtleties, which would have been needed to clarify what certain demands actually entail (e.g. "more public investment," "compact cities," "strengthen local communities," "recognise

[1] The authors have two additional research questions: (a) How doe its (sustainable degrowth perspective) align with ecological economics policy objectives?" and (b) "What are the main types of approaches embedded in degrowth proposals?"

[2] I have rephrased the goals, which were originally: (1) "Reduce the environmental impact of human activities," (2) Redistribute income and wealth both within and between countries," and (3) Promote the transition from a materialistic to a convivial and participatory society."

[3] In terms of popularity, the most commonly cited policies are: (1) reduce material consumption, reduce energy consumption, encourage or create incentives for local production and consumption, and promote changes in consumption patterns; (2) promote community currencies, non-monetary exchange systems and alternative credit institutions; promote a fair distribution of resources through redistributive policies of income and capital assets; promote work-sharing; create a citizen's income; create salary caps; encourage the reform of corporation charters and new ownership patterns; improve social security and invest in public goods; and implement redistributive taxation schemes; (3) promote downshifted lifestyles; reduce working hours; and explore the value of unpaid and informal activity.

[4] "the objectives behind the proposals are sometimes unclear. […] The degrowth literature would benefit from authors adding more detail to the proposals endorsed, to avoid unclear messages and to limit the range of proposals. […] there is a need to look at degrowth proposals as components of a strategy, and not just individually" (Cosme et al., 2017: 23).

common possession regimes"). I will withhold criticism here because their goal was merely to take stock of existing proposals, which are themselves lacking detail and structure.

Adding more policies

The Cosme et al. (2017) paper is limited for that it only considers a selection of peer-review papers in English published before 2014. In addition to their list, I would like to add more proposal from lists I have personally collected, either in the literature, in the European and French campaigns of the *Parti pour la décroissance* (the French degrowth party), in the 2019 Finnish *kohtuusliike* programme, and in diverse individual essays and manifestos. The 27 lists I have collected range from 2007 to 2019 and come from different contexts (France, Germany, Spain/Catalonia, Finland, Europe, Australia, and the United Kingdom).

10 propositions of *décroissance* at the legislative elections of 2007;
10 propositions for Cheynet (2008: 112-13);
10 policies for Latouche (2009: 68-71);
10 propositions for the French AdOC (2009);
8 changes for *Europe Décroissance* (2009);
17 proposals in the Barcelona declaration (Degrowth Barcelona, 2010);
10 principles for Prieto and Sim (2010: 67-69);
32 changes in the "new social pact" of the Belgium mpOC (2012);
5 proposition for *décroissance* at the legislative elections of 2012;
8 policy objectives for *Europe Décroissance* (2014);
9 measures as a recipe for degrowth (Pueyo, 2014: 3467-68);
9 degrowth proposals (Videira et al., 2014);
10 policy proposals for Kallis and Research & Degrowth (2015);
9 policies for Alexander (2016);
5 proposals for the U.S. Economy (Kallis, 2016);
20 propositions for *décroissance* at the legislative elections of 2017;
7 positive steps for Perey (2017: 214);
19 policies for Rigon (2017);
6 policies in the "policy package" of Kallis (2018: 127);
5 initiatives for Ariès et al. (2018);
9 changes in the open-letter for post-growth (Anon., 2018);
8 policies for Alexander and Gleeson (2018: Ch. 7);
5 steps for Hickel (2019a);
7 steps for *Europe Décroissance* (2019);
68 policy solutions in the *kohtuusliike* Finnish campaign (2019);
5 policies for Vansintjan (2019);
5 proposals for Schmelzer and Vetter (2019).

To be able to call it a degrowth agenda, I have kept the list narrow and excluded all policy lists that, even though more or less in line with the idea of degrowth, do not recognise themselves in the name.[1] I will now examine these lists in three steps, starting with all the ones from the

[1] For example, the 6 policies of van der Bergh (2011), the 7 points in Eisenstein's roadmap (2011: ch.17), the 10 policies for a steady-state economy of Daly (2013), the 7 strategies for a sustainable economy of Dietz and O'Neill (2013), the 4 policy changes proposed to the Labour Government (O'Neill, 2017), the 10 points to shrink the economy without crashing it of Heinberg (2014), the 12 steps for a prosperous way down (Odum and Odum, 2001), the 9 policy ideas for sufficiency of Mastini and Rijnhout (2018), the 22 changes of Barrau (2019), and the 66 propositions for a new "living power" (CFDT, 2019).

French degrowth party, then from the Finnish *kohtuusliike*, and finally the ones from individual authors and organisations.

Policies of the French degrowth party (2007-2019)

Let me start by listing the policies that have been proposed in the six campaigns of the French degrowth party[1] (legislative in L2007, L2012, and L2017, and European in E2009, E2014, and E2019).[2] In total, I have identified 80 policy elements, which I further divide into **40 objectives and 40 instruments** (full list available in Appendix 2). This number should not be taken too seriously for that it remains a matter of interpretation whether to count vague demands like "exit the Euro," "fight the financial oligarchy,"[3] or "stimulate the creation of relational goods" as ends or means. (For that same reason, there is little value in trying sort out, for example, public instruments based on whether they are economic, legislative, or else.)

And yet, there is one type of intervention that is disproportionately present, and that is public policy instruments. Nine out of ten policy instrument in the French agenda involves public authorities. Like most degrowth agendas, the French one tends to voice its demands in terms of instrument when it comes to public intervention and objectives when it comes to firm, communal, and household actions. For example, it would demand a "ban on luxury product," a "maximum income," or "social-ecological tariffs" all referring to a precise public policy instrument. But it would call for "energy savings," "relocalisation," and "the favouring of slow modes of transportation" (all objectives) without going the extra step and proposing, for example, shared rooms for utility appliances, community supported agriculture schemes, and a self-organised communal bike-sharing system (all instruments).

The French programme is the one that has been running for the longest time, 18 years for six campaigns. The three demands that have been most popular in all their campaigns are bans on advertising, the rejection of nuclear power, and an appeal to direct democracy.

Compared to other programmes, this one includes too few policy instruments in relation to its objectives. As I have argued in the previous part, a strong policy agenda should look like a pyramid with goal at the tip and instruments at the base. This is the case for the Finnish programme (3 goals, 18 objectives, and 49 instruments), as well as for the degrowth contribution to the *Grand Débat National* (86 goals, 103 objectives, and 231 instruments). This also holds true for certain individual agendas – e.g. 5 goals and 28 instruments for Hickel (2019a). In contrast, the French programme only has as many instruments as it has goals/objectives.

Policies of the Finnish kohtuusliike (2019)

One of the most extensive and sophisticated policy programme I have found is the one proposed by the *kohtuusliike* degrowth network during the Finnish national elections of 2019. Already

[1] As I have detailed in Chapter 5, the French *Parti pour la Décroissance* (degrowth party) should not be understood as a monolithic, stable organisation. Instead, it has been shaped over the years by different people and interests, with minimal involvement in traditional politics, which makes it closer to a movement than it is to a political party.

[2] The legislative elections happen every 5 years to elect representative at the National Assembly, the lower chamber of the French Parliament; the European election also happen every 5 years, and select representatives at the European Parliament

[3] In fact, former President François Hollande used precisely the same claim during his 2012 campaign, most famously during his *Discours du Bourget* on 22 January 2012: "The enemy is the world of finance. Before our eyes, in twenty years, finance has taken control of the economy, of society and even of our lives" (mt).

split into 3 goals and 22 policy themes, their agenda includes 68 policies, which I further divide into **18 objectives and 50 instruments** (full list available in Appendix 3). This time, all policy-instrument are framed from a State perspective, probably because the document was addressed to candidates for parliamentary elections. For instance, it demands not that existing firms shift to cooperatives but that such cooperatives be "encouraged by taxing them"; it does not ask for corporate social responsibility initiatives but to "tighten its legislation;" it demands "public investment and grants" for local currencies and community projects but do not detail what would be needed for these projects beside public money.

What is remarkable about the Finnish agenda, compared to the similar-sized programme of the French degrowth party, is that it is significantly more rigorous in differentiating objectives and tools. For example, policy n°24 in the theme of *transport* is an objective ("to curb the growth of air traffic"), for which they offer 3 instruments (raising the airport charge, introducing a flight tax, or restricting the number of flights passing through Finnish airports). The only missing piece of such strategy would be a target.

Compared to the French agenda, the Finnish one is a bit light on democracy. Only one of its theme (n°22, *administration*) deals with issues of governance, and it only includes the creation of a "Ministry of Ecological Reconstruction" and the appointment of a "climate minister." This silence on democracy is even more surprising – or some would say problematic – for all of their demands are framed from a public policy perspective.

Individual policy agendas

The 27 policy lists I have found in the literature vary in style and quality (full list in Appendix 4). Some are rudimentary, both on means and ends, like Latouche's (2009) electoral program or Perey (2017). Rigon (2017) only has instruments and Ariès et al. (2018) only objectives. Prieto and Sim (2010) only focus on individual actions. The mpOC's (2012) "new social pact" is more comprehensible but poorly structured. Pueyo's (2014) measures are unclear (e.g. "change the credit system," "dismantle undesirable infrastructure," or "generate a structure of incentives and disincentives") and so are the ones of the AdOc (2009) (e.g. "escaping the society of overconsumption" or "renouncing the cult of technique").

Kallis and R&D (2015) is the only one that includes targets and ranges, but only for a few of its objectives and instruments. Personally, I find Hickel (2019a) to be the best out of these lists, even though his objectives lack targets, and most of its instruments would benefit from specific ranges (e.g. like he does for income tax by specifying the rate of 80%). All in all, none of these lists constitutes a laudable example of how to conduct policy recommendations.

The most problematic shortcoming of these policies are that they are vague. Work time reduction is only rarely accompanied with a range of hours, and most tax proposals lack an indicative rate. "Gratuity of public services," yes, but which public services? And what kind of regime of gratuity? "Social and environmental impact assessment" for banks, yes, but should it be mandatory or voluntary, yearly or per investment, and supervised by whom? "Tax exemptions for not-for-profit cooperatives," yes, but which one exactly and how much? Degrowth being born out of anti-advertising circles, one would expect their policy

recommendation on the topic to be top notch. But in the end, it only recommends to "tax or ban advertising," with no details on how this may be done.[1]

Moreover, these policy agendas focus on the poster policies of degrowth (e.g. work time reduction, basic income, extraction caps) while ignoring all the other enabling policies that would be necessary to make those happen (e.g. anti-discriminatory legislation for part-time contracts, value-added tax regimes, land property). Even a work time reduction is made of a diversity of smaller legislative, market, and behavioural interventions. In doing so, these programmes reproduce a "silver bullet" approach to policy making where all revolutionary effort is invested in the passing of a couple of symbolic policies. If degrowth wants a structural, system-wide transformation, it must escape this policy reductionism and give up the hope that these so-called "leverage points" will magically wildfire revolutionary changes all over society. Instead, it should take a policy holism approach where the whole policy agenda is more than the sum of its individual policies.

Combining policy agendas

Let us now combine all these programmes into one single list. Starting from the largest pool of policies (the French degrowth party), I add the elements from the other lists while removing duplicates. In terms of structure, I follow the conventions I committed to earlier in the chapter and divide the list into *goals*, *objectives* (sometimes with *targets*), and *instruments* (sometimes with *ranges*). The final list contains 232 policy proposals, which I structure into 19 themes to facilitate reading. In total, I can count **60 goals, 32 objectives, and 140 instruments** (The full list is available in Appendix 5).[2]

Figure: Summary table of policy count

French degrowth	20 themes → 40 objectives → 40 instruments
+ Finnish degrowth	3 goals → 22 themes → 18 objectives → 50 instruments
+ Cosme et al. (2017)	3 goals → 39 objectives → 27 instruments
+ individual proposals	18 lists with 321 policy elements
= **Total**	**19 themes → 60 goals → 32 objectives → 140 instruments**

Analysis

One should not expect miracles out of this final list. Obviously, putting together vague and poorly structured lists does not magically make them precise and neatly arranged. This final list is perhaps more comprehensive but it still suffers from the same shortcomings as its internal constituents.

As I have noted before, these agendas are vague: "sustainable agriculture," "regulate lobbying," "more relational goods," "promote artisanship," "ethical finance," or "decentralise

[1] One may defend against this criticism and argue that this is not the place to delve in details, that these are only meant to give an overall picture of the changes needed, that such level of precision is outside the scope of these recommendations, etc. This passing of the ball has constant since the emergence of the concept. Result: these details are today nowhere to be found. They simply do not exist.

[2] The classification between these categories is based on my personal interpretation, and I am sure, other scholars would perhaps classify some of my goals as objectives, and some of my instruments as objectives or else. What matters is that the list is made of 232 policy elements, which can then be classified in different manners.

public services." In degrowth, it is usual to justify this vagueness by arguing that too-specific proposals run the risk of becoming heterogeneous forces and that it is ultimately only via democratically deliberation that one should design policies. What is surprising is that among an ocean of vague policies, one still finds fairly specific ones (e.g. the end of professional sport, to be replaced by amateur sport, remove VAT from repairs, raising airport charges, same retirement allowance for all).

To my reading, this shows that certain policy areas are better known from degrowthers than others. If there is no detail to be found about specific inheritance tax regimes and sovereign money reforms, it is not a conscious, strategic choice, but rather a matter of not knowing the details of these policies. While this is understandable considering the width of degrowth, it still means there remains a lot of work to be done to be able to offer a comprehensive, convincing policy programme.

Some may argue that these policies are only the tip of the iceberg and that degrowth is about so much more than that, and indeed it is. But how are decision makers supposed to know that? And could it not be specified by adding more details to the policies? If degrowth is not only about reducing unemployment but also, and most importantly, about questioning the role that work plays in society, why not translating that insight into a goal, objectives, and policy instruments to achieve it? My point is that if something is important for degrowth, it should be present in a policy programme. For utopian thoughts, the act of crafting a policy programme is determinant to even find out what the utopia is about. The many silences in existing programmes can be taken as an evidence that degrowth, as it has been conceptualised until now, is full of holes.

One precision that would be appreciated is on specific targets for objectives and ranges for instruments. Certain proposals do have them, for example four among Kallis' *10 policy proposals for the new left*: work time reduction to "at least 32-hour" with loss of salary only for "top 10% income," a "90% tax rate" on the highest income, a basic income of "400-600€," and a maximum income "30 times the basic income." But this is the exception rather than the rule, with the rest remaining unspecified, e.g. "support the social and solidarity economy," "reduce and restrict advertising," or "establish environmental limits."

Another lack of precision concerns context. Reading from the French, the Spanish, the Belgium, the German, and the Finnish policy agendas, one barely notices any difference. This is because proposals are made at an abstract level detached from any concrete cultural and political context. Of course, the rejection of nuclear power is more relevant in France where it constitutes 75% of its electricity supply compared to Spain or Finland where it is only a third. The urgency of unemployment is also different in Spain where unemployment rates are double the one of Finland. The challenges of food sovereignty in a country with 67 million people like France are not the same as the ones of Belgium (11.3 million inhabitants). It would be paradoxical for degrowth, which defends autonomy at all costs, to simply cut and paste their policies from one place and time to the next.

Another issue is that the programmes do not differentiate between ends and means, and so they mingle goals, instruments, targets, objectives, and implementation styles. This is not visible in my final list because I have re-organised them as such, but in the original lists of policies one finds in the literature, the demands are most often given in bulk.

Note also that they are rarely organised according to themes. In my interpretation, this depicts the go-big-or-go-home attitude that has been counter-productive in convincing policy-maker of the usefulness of degrowth as a policy frame. All of it, at once, or nothing. This is unrealistic. Decision makers craft policies one at a time, and so it is important to be able to offer targeted policy insights for specific themes such as work, international trade, or governance, and even further, subdivided in specific topics, for example working time, quality of work, wages and benefits, and so on.

Above all, this matters for political feasibility. In the list, some policies seem inconceivable right now (e.g. a universal basic income) while others would happen tomorrow without too much resistance (e.g. ban on planned obsolescence). But a small reform is better than none, and so one should think in terms of *Trojan horse policies* and *stepping-stone policies*, and not as an all-or-nothing policy agenda. One seemingly small policy can be a Trojan horse for more significant changes; for example, a reduction of working time to address unemployment (uncontroversial goal; the wooden horse) liberates time for commoning, thus reducing the importance of employment itself (controversial goal; the Greek soldiers inside the horse). And one seemingly small target/range can prepare the field for a more ambitious policy later on (e.g. an infinitesimal tax on financial transaction concerning only a few products can be updated to have a broader range and a higher rate). These programmes would be more convincing if they were to propose a variety of targets and ranges instead of a single measure – e.g. Hickel's (2019a) 80% top tax rate on income or Kallis an R&D's (2015) 30:1 wage ratio.

Another shortcoming is that the policies are given in a bagful without further recommendation as to how they should be articulated. Some policies have local and other national or even transnational ranges; some are short-term and other middle- or long-term policies; and some policies are more important than others. For example, this means one should differentiate between core policies and enabling policies. A weight-based feebate on cars is not as crucial for a degrowth transition as a work time reduction or a wealth tax. Certain policies require other objectives to be achieved to be successful, e.g. a carbon pricing system must be in place before a universal basic income is granted as to avoid rebound effects, a lightening of income taxation should happen before total working hours are pushed down as to avoid a net loss in State revenues. For a policy *list* to become a policy *strategy*, one should ponder over the synergies between its elements.

So far, policy discussions have remained at the level of picking ingredients (which I have argued has not been done in a satisfactory manner); what is also needed is to articulate these ingredients into recipes, that transition strategies. Without doing that, degrowth cannot be considered an alternative system and will remain a list of tweaks.[1] When it comes to degrowth, the devil is not only in the detail of each policy, but also in the detail of their interactions.

[1] Weeks (2011: 223-25) perfectly captures this point about the social imaginary being an emergent property of articulated demands: "these demands might best be characterised not only as directional, but also as 'articulable' – that is capable of being linked together. Although utopian demands do not present a systematic program or vision – they are not a means to some preconfigured end – broader political visions can be enabled as different constituencies find points of common interest. A demands manage to intersect and groups link together, broader social visions can emerge, not as a prerequisite of these articulations but as their product. To draw on Laclau's description, demands might be 'put together to create some kind of a more feasible social imaginary,' not a perfect state of emancipation and ultimate fulfilment, but more global-visions constructed around particularised items."

So far, degrowth has not offered convincing policy recommendations. The agenda is vague, patchy, messy, rigid, loose, and abstract – that is, not good enough for application. While it is often said that it is because growth is such a powerful ideology that degrowth policies are ignored, what I have showed in this part is that it is also because proposed policies are poorly designed and have as such failed to convince any decision maker. And yet, existing policy programmes should not be confused with what degrowth has to offer. My contention was that all the lists I have examined are far from using all the potential degrowth holds as a policy frame. Degrowth can do better.

Policies in Le Grand Débat National

Sometimes in the history of a concept, reality comes knocking at the door. This happened at the end of 2018 with the French government launching the *Grand Débat National* (Great National Debate, hereafter GDN), an unprecedented nation-wide consultation with the government asking the opinion of the French people on a number of topics. In this part, I build another list of policies, this time summarising the demands of degrowthers during the GDN.[1]

But a bit of history first. In October 2018, the announcement of a rise of the price of petrol sparked a movement of contestation against the fiscal policy of the government of Emmanuel Macron, which protestors complained was privileging the rich. Occupying roundabouts wearing the yellow safety vest that is compulsory by law for drivers to have in their car, the movement came to be referred to as the *Gilets Jaunes* (Yellow Vests). Reacting to the protest, the government announced in December 2018 that it would organise a process of public deliberation that "would allow everybody to debate questions that are essentials for the French people." This *Grand Débat National* (Great National Debate) took place between January 22 and March 18th, 2019.

The GDN was structured in four themes: (1) the ecological transition, (2) fiscality and public expenditures, (3) democracy and citizenship, and (4) the organisation of the State and public services. It consisted of a number of actions.[2] The one that I will use here was an open online platform (https://granddebat.fr) where participants could fill questionnaires and submit proposals. In total, the platform gathered 1.9 million contributions (70% questionnaires, 30% proposals), equally spread in quantity across the four themes. In this section, it is the online proposals submitted for the ecological transition question that I will be analysing.

I do so because it is there that most contributions using the word "*décroissance*" (degrowth) can be found.[3] Out of the 153,795 online submissions for the ecological theme, 540

[1] I should say right away that one cannot differentiate these two different sources with the first one coming from "scholars" and the second from "people." In fact, many of the lists I am extracting policies from in the first section come from manifestos, political campaigns, and citizen initiatives. It would have been possible to divide should I have decided, like Cosme et al. (2017) to only focus on peer-reviewed articles, which I find problematically narrow. As for the GDN, the online platform was accessible to everybody, also including academics.

[2] In March, one large and 21 smaller conferences took place. The whole process ended with a debates at both the National Assembly and the Senate. On April 8th, the government released 1,500 pages of reports about the outcome.

[3] This already shows that "*décroissance*" is here mostly perceived as an environmental issue (whereas I would personally argue degrowth has things to say in all four themes). Or rather, *primarily* as an environmental issue for that many of the proposals focus on issues of social justice (my guess is that because most participants only wrote one proposal, degrowthers may have submitted theirs under the ecological theme, even though the span they ascribe to degrowth – as evidenced by the breadth of their proposals – goes beyond mere ecological concerns).

of them use "*décroissance*" in their title (that number is only 16 for theme II, 12 for theme III, and 9 for theme III). In relative terms, that makes the *degrowth pool* within the GDN rather small, only 0.35% of the ecological theme, and 0.1% across all themes. An interesting side finding is that "décroissance" is more frequently used in titles than other popular terms – 529 submissions for "*développement durable*" (sustainable development), 126 for "*économie circulaire*" (circular economy), 61 for "*économie verte*" (green economy), 40 for "*croissance verte*" (green growth). In absolute terms, 540 entries is significant; it actually makes the GDN one of the largest survey of degrowthers ever conducted.[1]

There are several things I want to do with this questionnaire. In priority, I want to know *what kind of policies do degrowthers demand?* This means looking at both the diversity of proposals but also at which ones are the most popular. This descriptive inquiry leads to another more analytical one: *Are the demands of degrowthers coherent, consistent, congruent, and detailed enough to constitute a solid transition agenda*? What I am curious to find out is whether the 540 proposals are in themselves convincing enough to guide the transition that degrowthers have been calling for (or at least more convincing than the lists I have been analysing in the previous section).

Alongside these two main research questions, I am hoping to answer several other smaller ones. Although the design of the questionnaire and its anonymity closes down several research avenues (e.g. knowing how people understand degrowth, age, gender, or class analysis), it provides a couple of opportunities. With the answers of Question 1 (see questionnaire below), I could see which problems do degrowthers consider to be most important; as for Question 14, it could tell me more about role that degrowthers give to public authorities in the transition.

Methodological issues

Using the GDN contributions as data is not devoid of problems. The exercise was accessible to all and so there could have been entries coming from outside of France and duplicates. Based on the low rate of participation (2.8% of the French population), and the fact that all information was in French, I doubt there was little inputs from abroad, especially regarding a topic as niche as degrowth. Reading all proposals one by one, duplicates were easy to find (only 4 or 5) and so I have excluded them from my policy count (even though they remain in the final number of 540 entries).

Another problem has to do with the diversity of policies one can expect to find in the sample. The entries I analyse are submissions to only one of the four themes ("the ecological transition") and so one might expect to see a majority of environment-related policies. Because of this bias, I cannot claim that the list of policies I have derived from the sample represent what degrowthers demand in general (for example, I cannot claim that French degrowthers are more interested in environmental issues than in social ones). Instead, what it represents is only

[1] One should treat that number with caution: not all participants make the same use of the term "*décroissance*." Some use the word without using the concept (e.g. one entry out of 540 actually argue against *décroissance*, understood as recession). Some use the term as a catchphrase for environmental concerns in general, and other use the precise concept. Even though I am unable to precisely estimate the proportion of each use, I can say that only very few proposals seemed written by degrowth scholars. Entries most often bear the name of their author (most often only their first name), and I did not identify any of the degrowth scholars and activists whose name I have cited in Part II (although they may have used pseudonyms).

the demands of participants to the GDN who have used the word "*décroissance*" in the title of their submission to the ecological theme.[1]

Another limitation is that contributions were framed by a specific questionnaire, which biases towards certain interventions. Before proceeding any further, it is necessary to pause for a moment and say something about how the questionnaire was designed. The questionnaire contains sixteen questions, nine of them being open questions.

1. In your opinion, what is today the most important environmental issue?
    a. Air pollution
    b. Climate imbalances (flood, drought)
    c. Coastal erosion
    d. Biodiversity and the disappearance of certain species
    e. Other
2. In your opinion, what should be done to address this issue?
3. Would you say that your daily life is impacted by climate change?
    a. Yes
    b. No
4. If yes, in what way is your daily life impacted by climate change?
5. Do you personally think you can contribute to protect the environment?
    a. Yes
    b. No
6. If yes, what are you doing today to protect the environment and/or what could you be doing?
7. What could motivate you to change your behaviour, for example looking after and adjusting your heating, change the way you drive, or avoid using your car for very small distances?
8. In your case, what would be the simplest and most affordable solutions to motivate you in changing your behaviour?
9. Compared to your current heating system, do you think there exist more ecological alternatives?
    a. Yes
    b. No
10. If yes, what would it take to convince you or to help you changing heating systems?
11. When it comes to your daily mobility, do you have the possibility to use alternative means of transportation instead of cars use such as public transportation, car-sharing, demand-responsive transport, bike, etc.?
    a. Yes
    b. No
    c. I am not using a car for my daily transportation
12. If yes, what would it take to convince your or to help you using these alternative solutions?
13. If no, what are the alternative modes of transportations you would want to be able to use?
    a. Public transport
    b. Car-sharing
    c. Auto-partage
    d. Transport à la demande
    e. Bike
    f. Other
14. And who should be responsible for providing these types of alternative solutions?
15. What could France do to share its environmental choices at the European and international level?

[1] One way of getting around that problem would be to also include the policies from the other themes (only 37 entries spread over the three other themes) which better represent social questions. Yet, each question has a specific questionnaire, which makes comparison difficult.

16. Are there any other points about the ecological transition on which you would like to say something?

I find the first question unnecessarily narrow. It assumes that a complex, interdependent environmental crisis can be divided into separate issues (in fact, this precise point was made by one fourth of all degrowth respondents, all remarking that all of these issues were linked). Add the fact that it points to what could be considered merely symptoms (e.g. air pollution, coastal erosion, biodiversity loss) and not to underlying causes (e.g. economic growth, overpopulation, or ecological exploitation). This narrow framing is especially troublesome because it anticipates the second question, where participants are asked to name solutions to this specific problem they identified in the first question.

The questionnaire is mostly about individual behaviour. Although one could defend this position by arguing that it is ultimately individuals who partake in the survey, a number of degrowthers commented that this focus tends to push structural issues in the back stage. Plus, the fact that the exercise was organised by the government might make participants more likely to recommend public policies (84% of respondents point to public authorities as the one responsible for providing solutions).

The questionnaire is biased towards certain topics. Two questions on heating (n°9 and 10), three on personal mobility (n°11, 12, 13), with two others hinting towards these topics as well (n°7 and 8). One could defend such choice by saying that heating and transportation represent a large share of total French greenhouse gas emissions – 17.1% and 29% of emissions in 2018 (CGDD, 2019). But why not agriculture (16.7%) or industry then (10.7%)? And why focusing on personal transportation, and especially cars, when it only represents half of transportation-related emissions?

Degrowth policies

What do degrowthers want? Do they agree on what they want (policy ends) and how to get it (policy means)? I derive most of the policies from three different questions. Question 2 (*What should be done to address this issue?*), Question 6 (*What are you doing today to protect the environment or/and what could you be doing?*), and Question 16 (*Are there any other points about the ecological transition on which you would like to say something*?).

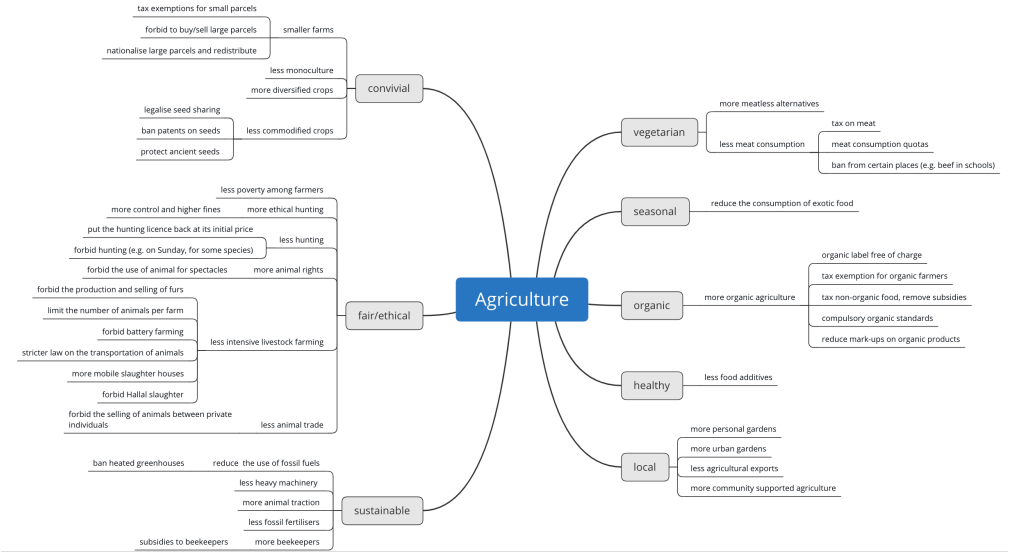
What makes it difficult is that people often mix what they are already doing (e.g. sorting their waste, riding a bike to work) and things they would like to see happening (e.g. better sorting of waste, more biking or safer cycling lanes). To simplify, I assume that people would want what they are personally doing for the environment to be generalised for others, even though I only count as policy proposals the ones that are explicitly stated as such.

Reading the 540 entries, I have identified **420 demands**. Using the framework, I presented in the previous section, I divide them into **86 goals, 103 objectives, and 231 policy instruments**. To facilitate presentation, I have structured the list in 19 themes, certain themes being richer than others (e.g. 62 elements for agriculture and 65 for transport, but only 13 for

work or 15 for population). I followed an inductive process where themes emerged out of the demands themselves, which may explain why they are analytically incoherent.[1]

The full list of policies is available in Appendix 6. Just to illustrate how I have structured the policies, below is an example of how one policy map looks like. At the centre is the *theme* (here agriculture); the eight first branches are *goals* (e.g. "sustainable agriculture," "healthy food," or "local products"); with *objectives* branching out of each goal (e.g. "more personal gardens" as an objective for the goal of "local products") and *instruments* branching out of objectives (e.g. "legalise seed sharing" is an instrument for the objective of "less commodified crops," which is itself branching out of the goal "convivial agriculture").

Figure: agriculture policy theme



Analysis

I will now examine this policy list based on five criteria. I will start by assessing its (1) *diversity*, that is reflecting on the quantity of proposals and how they spread over themes. Second, I will make a list of the (2) most *popular* demands. I will then evaluate the (3) *coherence* of this agenda looking if it is in line with the way I have defined degrowth in Part II. In a fourth step, I will comment on the level of (4) *precision* of the proposals. At last, I will question the (5) *congruence* of policies, that is how all these different demands interact within a single programme.

Diversity

The first question is simple: Do people ask more or less the same thing or are demands diverse?

In question 14 of the questionnaire, participants were asked "who should be responsible for providing these types of alternative solutions?" The most popular answer was the State (37% of respondents pointed to the national government plus another 47% who called on public authorities at the European, regional, departmental, or municipal level). All other options only gathered small portions of the votes: 6% of participants pointed to private firms, 1.8% to groups

[1] For instance, certain themes are sectors (e.g. energy, housing, transportation), others more abstract process (e.g. production, trade, consumption, disposal), and others just single topics (e.g. inequality, politics, population).

of citizen, and 2% to individuals. I read this as evidence that even though degrowth theory mostly talks about municipalism and bottom-up, citizen-led initiatives, in practice, most of the demanded changes are top-down, State interventions.

So mostly public policies, but with a great diversity within those. More than once, I was myself surprised to discover innovative proposals I had never seen in any degrowth texts.[1] For having spent quite some time reading both, there is a striking difference between the width of ideas one would find in official sustainability reports (e.g. OECD, World Bank, or UNEP) and the one existing among the ecological pool of the GDN. (Reading submissions at the GDN felt like finding an oasis of imagination in the desert of business-as-usual that is mainstream environmental politics.)

While proposals are imaginative in certain aspects, they lack imagination in other. For example, in the "education and research" theme, all of the demands for further scientific research have to do with engineer-like, highly-technical solutions. Nobody, for example, asked for sociologists to study the feasibility of work time reduction, or for economists to inquire into the feasibility of fare-free public transportation. In a world where the agenda was fully set by the demand of GDN degrowthers, I am afraid the present research would not even exist.

Popularity

What are the most popular demands among this sample of participants? Based on how frequently they are mentioned, here is the list of the ten most popular demands. (At this point, I do not differentiate between goals, objectives, and instruments.)

1. Better public transport
2. Organic agriculture
3. Ban pesticides
4. Better cycling lanes
5. Educate and raise awareness about the environment
6. Reduce the number of cars
7. Better train system
8. Limit the power of lobbies
9. Stabilise population
10. Maker polluters pay for pollution

In the table below, I split this list of most popular demands into policy ends and policy means. The left column depicts the largest consensus on what is considered desirable in terms of objectives and the right column what is considered desirable in terms of instruments. (The number in brackets shows how many times that element was mentioned in the 540 entries.)

[1] For example, providing the *contrôle technique* free of charge for cars with low mileage, as a way to incentivise alternative modes of transportation; or shifting the extra commuting time using soft modes of transportation on company's payrolls.

ends	means
1. better public transport (124)	1. ban pesticide (109)
2. agriculture bio (113)	2. make polluters pay for pollution (58)
3. better cycling lanes (90)	3. car-sharing (55)
4. educate and raise awareness (77)	4. telework (46)
5. less cars (75)	5. gratuity for public transport (41)
6. better train system (67)	6. tax kerosene (40)
7. limit the power of lobbies (67)	7. ban planned obsolescence (33)
8. stabilise population (60)	8. carbon tax (32)
9. relocalise production (55)	9. ban on advertisement (30)
10. stop nuclear power (51)	10. green TVA (25)
11. phase out plastics (46)	11. green tariffs (22)
12. cheaper public transport (45)	12. ban over-packaging (20)
13. more train freight (37)	13. tax based on km (17)
14. relocalise consumption (33)	14. new indicators beyond GDP (18)
15. green city spaces (28)	15. vente en vrac (12)
16. consume less meat (28)	16. consignes pour emballages (14)
17. more natural reserves (27)	17. aides à l'achat electric bike (9)
18. less intensive livestock farming (27)	18. recuperation de l'eau (8)

So these are the most popular degrowth demands. Again, they are mostly top-down with a strong involvement of public authorities (14 out of the 18 policy means). This can take the form of the government or municipality taking responsibility for certain services (e.g. nationalising train transport or water and energy provision), or just intervening to regulate markets (e.g. carbon tax, green tariffs) or legislate in general (e.g. forbid cars into cities, ban pesticides).

Precision

Are proposals detailed enough or are they too vague? Most submissions are shallow. My impression after having read the 540 entries is that only a minority of them were written by people well-versed in degrowth scholarship.

Certain participants did put quantified targets behind their demands. Here is a selection of them: reduce the consumption of animal products by 25% by 2025, two days without meat per week at school cafeterias, taxing farms largest than 15ha and limit them to 50 animals, phase out fossil fuel within the next 10 years, setting 1/5 of France as natural reserves, turning off public lightning from 23:00 to 05:00, 25% VAT on luxury and polluting products, capping wages at 12 times the minimum wage, limiting speed to 110 km/h on highways, stopping family allowance after the second child, or a carbon tax starting at 50€ per ton. Yet these are the exception rather than the rule – and this is the first noticeable lack of precision.

Another uncertainty has to do with the form an intervention takes. Looking at, for example, advertisement, people may want to *reduce* it, *limit* it, *tax* it, or *ban* it. Each of these different policy objective would require a different policy instrument. Most of the time, the detail of the demand ends at the choice of a verb (e.g. *taxing* advertisement) but do not delve further in explaining what kind of tax should it be, how high, at which level and for what products it should implemented etc.

Most changes focus on concrete problems, like safer cycling lanes, cheaper train tickets, or tax credits to change heating system, but few try to identity core causing mechanisms. For example, if people were to live closer to their workplace or live in shared housing (only

proposed by a handful of respondents), then these first concrete problems would not exist in the first place (or at least exist to a lesser extent). It is easier for a building to together decide to switch to a solar and wind-based electricity system than it is for a single household; and it is easier to bike to work when one lives nearby. The problem with too-specific demands is that they can be easily dismissed as too peculiar and personalist. Of course, being too abstract is also a handicap (recall the failure of the Occupy Wall Street Movement whose demand for "justice" lacked specificity). What reformists should aim at is hierarchized changes: broad *policy goals*, specified in operational *policy objectives*, associated with specific *policy instruments*.

The treatment of business issues is a case in point. Many respondents talk about for-profit private firms, either blaming them for being directly responsible for ecological exploitation or not trusting them to provide sustainable goods and services at a fair price (e.g. many stories are told about solar panels scam schemes). One may advocate for forbidding predatory loans and extortionate services, but no alternative business model was put forward (and also no policies that would facilitate its emergence).

Another problem is that people are asking for things that already exist. For example, they demand the banning of planned obsolescence (which exists since 2016) or the introduction of a Tobin tax (which exists since 2012). Of course, there is much to criticise about the design of these specific policies, but in order to be constructive, proposals should keep up with changes that are already underway and demand precise changes (maybe an increase of the fine for individuals prosecuted for planned obsolescence, a broader reach for the currently existing Tobin tax). This happens in a handful of proposals where respondents point to policies enacted in other countries (e.g. secure cycling lanes in Denmark and The Netherlands; frequent referendums in Switzerland; renewable energy in Sweden; healthcare provision in Cuba).

The whole Yellow Vests movement started around the tax on petrol. Yet, the uprising carried a strong environmental consciousness and did not argue against intervention aiming at phasing out fossil fuels (which most of the entries I have read support), but against the design of a tax they considered unfair. This being so, one could expect proposals to be specific about what kind of tax should be implemented instead of the one that caused dissatisfaction. And yet, such proposals are nowhere to be found in the degrowth submissions. At best, respondents make broad appeal to social justice, but they remain silent as to what particular policy design would enable a just transition out of fossil fuels.

Analysing the 540 "degrowth" submissions to the online platform of the French *Grand Débat National*, I have identified 86 goals, 103 objectives, and 231 policy instruments. Although the width of these proposals is impressive, I have argued that these were insufficient in depth and coherence. The degrowth transition one finds in this policy agenda is vague and partial, and as such is of little value for decision makers.

Conclusions for Chapter 8

POLICYMAKING is not degowth's strong suit. Existing proposals are vague, clumsily phrased, narrow, sometimes incongruent and incoherent, un-articulated, detached from

context, lack deadlines, and poorly structured. In their current state, the lists of propositions offered by degrowthers are more messy bags than ordered toolboxes, which makes them of little value to decision makers and explain in part why degrowth has so far remained excluded from mainstream politics.[1] But the fact that it has not been done does not mean that it cannot be done. Following the precepts of policy design, I have introduced a conceptual framework to structure policymaking, which, I hope, will give the means to revolutionary reformers to build convincing bridges to the futures they desire. In the next three chapters of the thesis, I will myself test that technique by developing a policy agenda for degrowth around the three specific themes of property, work, and money.

[1] The "in part" matters. Let me repeat here a point made earlier in the chapter: even if degrowth had the most elaborated policy agenda there is, it is likely it would still be excluded from mainstream politics. This is because degrowth stands against ideas that are hegemonic in mainstream discourse.

Chapter 9

Transforming property

PROPERTY is everywhere. The different rules governing the buying and selling of dwellings has to do with property, but so are decisions dictating whether or not homeless people can sleep on public benches, whether users should pay for public transportation, or whatever you are allowed to do with these very words that I am writing. Property, in the form of written rules or informal customs, reflects and determines how one should behave towards objects, and through them, towards subjects. It defines what is a resource and who should be entitled to have it. Without property, there would be no economy.

Property is neither good or bad, yet it is not neutral either. Not everything can be owned and not everything should be owned. From a normative standpoint, certain ownership regimes can be more adequate than others. Property being a key institution of the growth system, it is natural that it should be considerably rethought and adapted to a degrowth context. In Chapter 6, I have argued that degrowth stands against the economisation of society and nature. The question now at hand is to understand what role does property play in such economisation? And in reverse: What role could property possibly play in de-economisation?

The degrowth literature on property is scarce. In 2010, the Working Group n°4 of the Barcelona conference was tasked to answer the following question: "What property rights and institutions for a degrowing economy?" As of today, only a handful of scholars have attempted to answer this query. The most in-depth treatment of the question was Alexander's (2011) doctoral dissertation "Property Beyond Growth" with a strong appeal to voluntary simplicity using the philosophy of H.D. Thoreau (1817-1862) and a defence of a "simplicity entitlement" (the author's version of a universal basic income).

Should also be mentioned van Griethuysen (2011, 2012) who used Heinsohn and Steiger's (1996, 2013) theory of property economics to argue that State property and common possession should come to replace private property. To mitigate growth imperatives, the author recommends limiting the scope of the property domain (i.e. preventing certain assets to be used as financial collateral), elaborating criteria for responsible investment, and distribute created wealth in a fair manner.

Finally, DeVore (2017: 647) challenged the view that private property should necessarily be abolished.[1] Looking at a Brazilian squatter community, he showed that not all forms of private property are incompatible with degrowth because certain private property arrangements are more social than others.[2] Then, there has a been a few articles who have made specific claims about property; for instance, Gunderson et al. (2019) advocate for collective ownership of energy systems as a way of reducing total energy demand.[3]

I have chosen the key as a symbol of property to emphasise that most of the discussions of this chapter revolve around the necessary reduction of the sphere of private property. The unconscious association we make today between "property" and "private property" is not random. We think "private property" because it has become the prevailing way of organising ownership. In the same way that I will argue in the two following chapters that "work" should not only be "wage-labour" and that "money" not only "general-purpose bankmoney," the main point of this chapter is that degrowth challenges propertarianism, that is the dominion of private property.

The chapter is divided into four sections. I start by defining the terms I will be using throughout the chapter, including property, ownership, possession, and property regimes. The following three sections are identical in structure, each dedicated to one specific goal that should be achieved in a degrowth-oriented transformation of property. I look at property issues at three different stages of the process of value creation. The first is the *redistribution* of already existing, accumulated wealth (**Goal n°1: Sharing wealth**). I will then look at *distribution* issues linked with the splitting of wealth between several actors during the process of production (**Goal n°2: Democratic ownership of business**). And at the *pre-distribution* stage, I will discuss the ownership of nature that preconditions production (**Goal n°3: Stewardship of nature**). Each goal unfolds into a number of objectives as well as a selection of policy instruments to achieve them.

Property from a degrowth perspective

Before exploring policy goals, objectives, and instruments, I must clarify what I mean by the term "property" and, in the process, make some preliminary remarks about what it might mean to question the hegemony of private property over other forms of ownership. I proceed in three steps: justifying the choice of the bundle or rights view of property, distinguishing *property* from *possession*, and making the difference between four types of *property regimes* (common, public, private, and uncontrolled).

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[1] Alexander (2011: 85) makes the same argument.

[2] "MST (*Movimento dos Trabalhadores Rurais Sem Terra*) settlers' understandings and demands for private property has little to do with familiar justifications (e.g. utility maximisation, efficiency, greed), and has even less to do with those historical episodes when it was supposed to emerge and expand (e.g. English enclosures, primitive accumulation, colonial dispossession). If they appear as 'individualists,' their individualism has little to do with neoliberal or capitalist ideology, but is rather a situated and shared response to renewed experiences of hierarchy, insecurity, and exploitation" (DeVore, 2017: 649).

[3] Another treatment of the question worth mentioning can be found on the website of the Italian *Associazione per la Decrescita*. To the question "What does degrowth has to say about property?" the short entry pleads for new forms of ownership outside of both the market and the State. "Degrowth points to the liberation of natural and cultural wealth from both private and public fences, to be replaced by the ability to self-manage wealth in cooperative, shared, and supportive ways" (Decrescita, 2019, mt). While it justifies private property for certain personal items, it argues that natural resources (e.g. land, water bodies, the atmosphere, forests, mineral deposits, and other living organisms), the means of production, and cultural wealth should be owned in common.

Bundle of rights

The legal literature on property rights can be split in two main camps. The *exclusion view* embraces the vision of property that resonates the most with the common use of the word: what is "mine" is defined by my ability to do whatever I want with it, and this in exclusion of the volition of others. It is *my* house and so I can prevent you from being in it, do whatever I please with it, use it, sell it, or even destroy it.

In this view, property is "possessive individualism" (Macpherson, 1969) and property rights are binary (either you own something or you do not). Property involves a thing being owned with ownership referring to the owner's dominion over the thing – that is to say, the rights are solely located in the relation I have with the object of ownership.[1] Even though the core rights associated with this vision of property can be more or less diverse, what characterises the exclusion view is that there is a stable set of rights that applies regardless of the agent, object, and context.

The contending perspective to that view sees property in a more contextual way. According to the *bundle of rights view*, property is a malleable institution that takes various shapes depending on the situation. The analogy of the bundle of rights comes from American economist John Commons (1893) who defined property as a changing mixture of public, private, definite, and indefinite rights that are distributed among individuals and society: "property is not a single absolute right, but a bundle of rights" (ibid. 92). Proponents of that view, the so-called legal realists, acknowledge that property is not an absolute right that precedes social interactions but a complex collection of legal relations (or *sticks* to keep with the bundle metaphor) between all stakeholders involving claim-rights, liabilities, liberties of access and withdrawal, power of exclusion, management, and alienation, and duties of care.[2] A common, yet perhaps too simplistic, bundle of property rights is the triad of *usus* (right to use), *fructus* (right to benefit from), and *abusus* (right to alienate).[3]

From this perspective, the property that I hold over a thing is only the sum total of the particular entitlements that rules and customs grant me in that situation. Even though it is *my* car, I do not have the right to drive it faster than 130km/h on public roads, which is forbidden by law (i.e. some of my property rights over the car involves restrictions and a duty of care towards others). Likewise, I do not have the right to cruise around playing loud music with open windows, which is sanctioned by unwritten, informal customs. One could say that ultimately it is not the car that I own but certain rights associated with its use,[4] and so the rights

[1] This view is best captured by 18th century English jurist William Blackstone's (1765: II, 2) often-quoted passage: "that sole and despotic dominion that one may claims and exercises over the external things of the world, in total exclusion of the right of any other individual in the universe."

[2] Honoré (1961) gives a list of eleven "standard incidents": (1) the right to possess (e.g. an apartment), (2) the right to use (living in the apartment), (3) the right to manage (decide who may enter the apartment), (4) the right to the income (renting the apartment), (5) the right to the capital (selling or destroying the apartment), (6) the right to security (being protected against expropriation), (7) the incident of transmissibility (bequeathing the apartment), (8) the incident of absence of term (the continuation of these rights over time), (9) the prohibition of harmful use (not using my apartment to harm others), (10) liability to execution (losing my apartment over debt), (11) residuary character (the ownership of the apartment returns to the owner after a lease). Schlager and Ostrom (1992) simplify into five: access, withdrawal, management, exclusion, and alienation.

[3] The ability to exclude others from the use of a resource is one of the stick that one often finds in the bundle, and so one could say that the bundle theory includes the exclusion view.

[4] "We may speak of a person owning land and using it as a factor of production but what the land-owner in fact possesses is the right to carry out a circumscribed list of actions" (Coase, 1960: 44).

I hold are not only with respect to a thing but rather in respect to other people *through* a thing. But owning an electric car may involves different bundles than owning a petrol car, and owning a bike surely involves a different bundle than the previous two. This means that property should not be understood as rigid and monolithic, but rather as an evolving and contextual institution.

My contention is that studying property in a degrowth context requires taking a bundle of rights perspective. First, to be able to study public goods whose exclusion is impossible (e.g. the climate). But also to escape the Cold War dichotomy between private and public property, which often frames discussions against an unnecessarily narrow choice between capitalism and communism. The problem is that the exclusion view performs poorly in comparing complex and diverse property regimes across time and space, and tends to only highlight the forms that property relations historically took under Western capitalism.

Most importantly, whereas the *exclusion view* implicitly support a minimalist State, the bundle theory opens towards other directions, including the shrinking of the realm of private property that I defend in this chapter. This point is crucial: defining property as individual and absolute in a society with high levels of economic inequality grants more power to the wealthy and legitimates a private governance of assets. The bundle view, on the other hand, invites a wider set of stakeholders into decision-making, thus creating fertile conditions for democracy.

Property and possession

Property (which I will treat as synonym with **ownership**) refers to *the social agreements surrounding the way people access, use, and control things*. It determines the different actions that are considered permissible by certain actors regarding a designated thing. To use one definition among many, "property is a claim [of persons to some use or benefit of something] that will be enforced by society or the state, by custom or convention or law" (Macpherson, 1978: 3). As such, and this is crucial, property is a social relation (Singer, 2000).

Here I take a broad view of property, including both its existence in written laws and rules (legal ownership) but also in unwritten customs (customary or moral ownership).[1] In essence, these are the same as they both originate from a social agreement about who should be entitled to what. Because it is a social arrangement, property cannot be decided alone, it is necessarily the product of social deliberation. But the outcome of this deliberation is never fully consensual, and so sometimes these two forms of social validation of ownership can conflict. Sci-Hub (a pirate website that provides free access to scientific papers), for example, is considered by the State as an illegal proprietor being in possession of stolen scientific articles, but supported by a large community of scholars considering that, because knowledge should be accessible to all, the ownership claims of private journal is morally illegitimate.

With such a broad definition, one could wonder what is *not* property? Answer: everything that is not socially considered ownable. A thing can either *be owned* (and then, it is managed via property rules) or just *be*, which means it is granted intrinsic rights and exists on its own outside the realm of ownership (i.e. it belongs only to itself). If humans are not considered autonomous beings (think of slavery), then a dispute concerning a slave is a property

[1] This courgette is mine after buying it in the supermarket (I am *legally* entitled to its possession after purchasing it), but it is also relatively more mine than yours after I place it in my shopping cart inside the supermarket (I am *ethically* entitled to its possession after placing it in my shopping cart, which is customary in that specific place).

issue. If a river is granted the intrinsic right to exist and that right is being denied (e.g. pollution), then it is not a property issue but a criminal issue.

Property is not the same as **possession**. In this chapter, I understand property as the social rules and possession as the practical act.[1] I am in *possession* of a book for which I have legal *property* over because I bought it. Others have legal duties towards me with respect to my book (e.g. they can be punished by the State if they borrow it without my consent). But if I had stolen that book, it would still be in my possession but it would not be my legal *property* in regards to the law (although it could still be morally considered my property if, for example, I myself wrote it but the content was unfairly captured by a publishing corporation).[2]

Property always involves four elements: an agent, a thing, a set of specific rights, and a community. The agent is the one holding the property rights (hence them being referred as *rights-holder*); it can be an individual but also a family, a firm, a public agency, an association, or even some more abstract entity such as a "community," "humanity," or "Mother Earth."

The "thing" is often called a *resource* or an *asset*. It denotes an object, a subject, or a process that at least one person has reasons to value (e.g. water, pollination, but also a teddy bear or a wedding ring). Often, the thing itself is also called "property" as in, "these written words are *my property*." But remember, property is not only a thing but the legal and ethical rights attached to that thing.[3] These *resources* or *assets* encompass all the things that can legally or ethically be owned.

It is usual in economics to differentiate between four types of goods based on their degree of subtractability and excludability: *private goods*, *public goods*, *club* or *toll goods*, and *common goods*. Even though certain goods invite certain forms of ownership, goods do not predetermine the form of property they take. Even if a toothbrush seems to be predestined to be treated as private property, it could, in theory, be otherwise. Likewise, even though a colour seems predestined to be common property, there is ultimately nothing preventing it from being privatised.[4]

The rights are the effective powers over a thing that comes with its ownership (e.g. right to use, right to destroy, power to transfer, duty not to harm). I call them "rights" for short to refer to everything an agent is allowed to do with a thing but also expected to do – or not to do – with a thing (so rights as both power and duties). And indeed, rights can either be positive (requiring action by others) or negative (requiring inaction by others), and always involve duties (one could also say *obligation*, which I will use as a synonym), which are also either positive or negative.[5]

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[1] My understanding of those terms is then different from the "ownership economics" of Heinsohn and Steiger (1996, 2013). They define *possession* as the rights associated with the material use of a resource and *property* as the right to enter in credit relations using the resource as collateral (for me, these are both different rights in the property bundle).

[2] *Possession* should not be confounded with *possessions*, the former being the act of being in possession and the latter only being the object, subject, or process being possessed.

[3] The difference I make between property *rights*, property *claims*, and property *entitlements* is the following. *Rights* are the most general category of actions one is allowed to do with a thing. Agent can be *entitled* with these *rights*, or put another way, they can hold *claims* over specific *rights* (e.g. I can claim the right to carry my computer wherever I want).

[4] The company John Deere claims exclusivity over the green/yellow combination it uses for its products; for Tiffany & Co. it is over its robin's-egg blue hue; and French fashion designer Christian Louboutin was granted ownership rights over its red shoe sole trademark (TFL, 2018). Another firm called Pantone specialises in the selling of new colours that it "creates" (e.g. Rose Quartz and Serenity, Marsala, Mimosa, Sand Dollar, Fuchsia Rose, Cerulean).

[5] Freedom of speech or freedom of religion are *negative* rights for that they demand that others do not impeach these rights. In contrast, police protection or public education are *positive* rights because they require a specific action for that right to be realised.

At last, there is the surrounding society which acts as grantor and guarantor of the *right(s)* of the *agent(s)* over the *thing(s)*. This is often the State but also a family, a neighbourhood, an association, a firm, a municipality, or a group of countries.

Property regimes: private, common, public

By **property/ownership regime**, I understand the specific way property relations are instituted in a given social environment (e.g. the *property regime* framing intellectual property rights in France; or the *property regime* dealing with cod fishing in an Icelandic village). This includes the rules but also the actors who enforce them. I remind the readers that, in this chapter, I always look at property as a bundle of rights. This considerably changes the use of the terms "property" and "proprietor" and "ownership" and "owners" from their meaning in common parlance. In defining different property regimes, what matters is the shape of the bundle, that is the different *rights and duties* associated to the relation between *agents* and *objects*. Being the "owner" of the same thing can entail widely different rights from one property regime to the next.

I distinguish between four ideal-typical property regimes. **Private property** is a property rule we all experience in our daily life, albeit in a variety of ways. It contrasts to two other categories of property arrangement: **common property** (also *social* or *communal property*) and **public property** (also *State* or *collective property*). This fits with the four spheres of economic activities I have defined in the introduction: *households* (private property), *commons* (common property), *State* (public property), and *firms*, which can be any of these.[1] The fourth category is often referred to as *open-access*, which is a system without any effective restrictions on the use of a resource. Yet, I prefer to call is **uncontrolled** to make it clear it refers to the absence of property rights, and not to common property regimes with open-access features (e.g. Wikipedia or picking daffodils in the woods).

Under a private property regime, things are owned by private agents, for example a person, a family, or a firm. As stated in the Article 544 of the French *Code Civil*: "ownership is the right to enjoy and dispose of things in the most absolute manner, provided they are not used in a way prohibited by statutes or regulations."[2] To be privately owned, a thing must be clearly defined and identifiable (e.g. a toothbrush, a ton of emittable CO_2, or the recipe for Coca-Cola). In such system, the overall distribution of property rights is a result of the interactions of individual owners, even though it is more or less framed by the community and public authorities.[3] If I own a house, it is me that decides whether you should be able to be in it (*exclusion*), however I want to live in it (*use*), and whether I want to sell it, rent it, or just destroy it (*management* and *alienation*). I can also decide to transfer this bundle to my children after I die or sell it to someone else, and they can decide to do the same, and this forever (*right to transfer*). And yet, my ability to do all these things are still limited by laws and customs (e.g. a

[1] Private property for a single-owner family business, common property for a stock corporation or a cooperative, public property for a State-run firm.

[2] One could also mention the Article 1 of the first protocol of the European Convention on Human Rights, "every natural or legal person is entitled to the peaceful enjoyment of his [sic] possessions."

[3] For instance, deprivation of property is permitted if "in the public interest." This is decided via a "fair balance test," or process of reasonable proportionality, where the interest of the person and the one of the public interest are weighted against each other. Consider, for example, the government requisitioning private boats to rescue soldiers during the battle of Dunkirk or food during a famine, and also the obligation for farmers to sell their land at an imposed price during the construction of a highway.

portion of the inheritance is taxed, there might be price controls on rents, further construction of the house requires approval by the city council).

The second type is **public property** or **collective property**, which places the control of a thing under the supervision of public authorities, for example train tracks, a city square, a national park, or the International Space Station. Often, it is private or common property that become public through nationalisation. As the Article n°545 of the French *Code Civil* states that: "no one may be compelled to yield his [sic] ownership, unless for public purposes and for a fair and previous indemnity."[1] This often happens when a road or a train track is built or when a forest is declared a national park, the State then needing to acquire all the land from the individual people owning it. The rights-holder in that situation can either be the government (e.g. ownership of the army), an associated organisation (e.g. ownership of national parks), or a municipality (e.g. ownership of a water system).

Finally, **communal property** (also *common* property) is when decisional authority is extended to a broader groups of people within a community. This can be defined more or less restrictively, either only including those directly using the resource (e.g. the users of a local currency), or more broadly by including all the people, then called *stakeholders*, who are affected by the use of a specific resource (e.g. everybody affected by climate change has a right over the use of fossil fuels).[2] What matters is that it is the communal entity as a whole that is determining the rules. What differentiates it from the two previous regimes is that this group is not organised as a single firm (but it could be a consortium of them) and not considered a public authority (even though it can be recognised and supported by it).

Assets can shift from one property regime to another. With four regimes, this gives up four allotment processes: *socialisation*, *nationalisation*, *privatisation*, and *renouncement*. Workers running an abandoned or occupied factory is *socialisation* of a private asset. Paying taxes effectively *nationalises* ownership over private monetary wealth. A corporation *privatises* a scientific article when it restricts its access. And one *renounces* their rights over an object by abandoning it, for example, throwing a water bottle in the ocean.

I should say that these three forms of ownership are ideal-types and differentiating between them in reality is not that simple. Public property in a totalitarian regime is more "private" than in a democracy (in the sense of being controlled by a sole dictator and not by elected representatives); means of production are more common in a cooperative than in a shareholder corporation; and shares in a cooperative that can be sold without restrictions are more private than ones that are asset locked. Often, they are associated with specific political-economic systems (capitalism for private property, socialism or communism for collective property, and communitarianism or anarchism for common property). These categories highlight the predominant form of property, even though one should remember that no society ever relies exclusively on just one type of ownership.

Different regimes are necessary if only because certain resources better fit certain property rules. Private property is most adequate for easily excludable objects like underwear and toothbrushes, let it be under communism, communitarianism, or capitalism. Same for

[1] Sometime, the indemnity can be zero (e.g. nationalisation of the car manufacturer Renault in 1945 after the Renault family was condemned for collaboration with the Nazis).

[2] Non-humans should sometime be included in that *broader* group. As I will detail in Goal 3, the granting of intrinsic rights to rivers or forests means that they become stakeholders themselves (even though their interests must be voiced by humans).

common property for the climate and other ecosystems where it is impossible or difficult to stop other people using it, or public property for historical buildings and nuclear submarines. Even though there is nothing in the intrinsic qualities of a resources that constrains it to a specific mode of ownership, certain assets are more fitting to certain property regimes.

Goal 1: Sharing possessions

The first problem about property today is straightforward, some have it and others do not. And the solution to that problem is also simple: redistributing wealth.

To *redistribute* means to compensate for an unfair distribution of burdens and benefits in the past; one could say it is a change of property regime *ex-post*. From the perspective of degrowth, redistribution does not rely on – or wait for – future creation of wealth. It is the wealth that already exists, in all the forms it takes (e.g. money, debt, and possessions), that should be redistributed.[1] And this is perhaps where degrowth is most original in its approach to reducing inequality: instead of starting with the goal of eradicating poverty, it starts at the other hand, with the eradication of wealth.[2] Ultimately, the objective is one of sufficiency, with everybody having enough without anybody having too much.[3]

Reducing income disparities

One way of reducing the possibility for inequality is to reduce the distance between the lowest and the highest income. This is a direct application of the principle of sufficiency: there should be limits on both sides of the wage spectrum.[4] In a society where most satisfiers of human needs are commodities, perceiving a sufficient income becomes a *sine qua non* condition for a decent life – hence the need for a minimum wage. On the other hand, a maximum income ensures that collective wealth does not get absorbed at the top of the distribution and at the expense of least fortunate households.

Discussing thresholds is relevant today in a situation where income inequality is high and on the rise. In terms of wages and according to the French *Observatoire des inégalités* (OdI2019: 35), the 10% lowest-paid workers (minimum wage at €1,200) receive 3 times less than the top 10% best paid (a difference of €2,433 per month) and almost 7 times less than the top 1%, that is a €7,070 difference. In the decade between 1996 and 2006, the wage of the

[1] It is not, however, because the great majority of policies associated with this goal are public ones that redistribution is a task for governments only. Societies without a centralised authority redistribute too, using different mechanisms (e.g. the potlach in certain tribes, the philanthropy of religious organisations, the *gramdan swaraj* – self-determined village gifts – movement launched by Vinôba Bhave in 1950s India, the pay-as-you-can schemes of anarchic communes, the transaction tax of certain local currencies used to fund community projects).

[2] Without referring to degrowth, Concialdi et al. (2019: 53) perfectly capture this spirit when they calculate that the 2017 income of the CEOs of the 40 firms composing the CAC 40 financial index (187 million euros in total) would have been enough to lift up 50,000 people above the living wage level. "Said differently, the extravagant income of these 40 CEOs effectively prevent a population of the size of Belfort or Quimper [French cities] to reach a decent living standard" (ibid. 54).

[3] The strongest message would be to modify the Article 17 of the *Human Declaration of Human Rights* as to add an article specifying that wealth can only be accumulated until a certain limit, as proposed by a number of authors (Piketty, 2019; Concialdi et al., 2019; Richard, 2017).

[4] "The introduction of the minimum wage itself is recognition of the fact that the market can undervalue a person's contribution and fail to provide a living wage. But the market can also overvalue a person's contribution. If intervention in the market is justified because the market cannot be relied upon to determine how little is too little, then intervention could be justified at the other end of the spectrum, where the market is blind to how much is too much" (Ramsay, 2005: 204).

bottom 90% of French employees increased by 6% representing a total addition of between 100€ and 240€ per month. During the same period, the 0.1% highest remunerations went up by 28%, with an added 5,400€ per month (Terra Nova, 2012: 30).

Another important wage inequality concerns gender. In 2015, a women working full-time is paid 18.5% less than a man working the same hours (OdI, 2019: 37). Mixing full-time and part-time contracts (dominated by women), this difference reached 25.7% in 2012 (Dares, 2015b). Even when accounting for age, types of contract, activity, and position, meaning taking the exact same job, women still perceived 10.5% less their male colleagues in 2012 (OdI, 2019: 40). And the higher the salary, the wider the gender gap: while it is a 7% difference for wage-earners of the bottom decile, it is 21% for the top decile and 34% for the top centile (OdI, 2019: 38).[1]

And this is only for wages. The 1:3 or 1:7 ratios between the bottom and the top of the wage distribution look pale in comparison to disparities in terms of income. The OdI (2019: 52) reports that, in 2015, the average monthly income in France was €2,170, with a wide gap between the average €1,740 perceived by the bottom 90% of the population and the rest: €5,069 (top 10%), €14,749 (top 1%), and €108,082 (top 0.01%). The ratio between the professional yearly incomes of the executives of the stock market index SBF 120 (120 largest French companies) and the minimum wage ranges from 1:600 to 1:1400, meaning it would take a worker at minimum wage between 600 and 1,400 years to earn what these executives receive in a single year (Proxinvest, 2018 cited in OdI, 2019: 55).

Making the case for a minimum wage in a French context will require little arguing for that it is already a right enshrined in law since 1950 (the rates in 2019 are set at 7.94€ per hour, €1,204 per month, or €14,450 per year after taxes). The rationale behind such threshold is that workers should receive enough money for their labour as to afford the basic necessities for life, and this regardless of their line of work and personal situation. If the minimum wage ensures that all workers have enough, a maximum wage guarantees that no worker has too much. It can be defended either on deontological grounds or because of its consequences. Deontologically, one could argue that no human is worth more than x time another. In terms of consequences, one could argue that capping income limits the social costs of inequality; one could also say that it puts a limit on commodity consumption and therefore reduces environmental pressures.

Each of these two wage limits have been facing a number of critics. The minimum wage is often opposed for its negative consequences on employment, with firms supposedly not hiring workers that they would have hired at a remuneration below the minimum wage. But this criticism only applies to a market economy with labour being treated as a commodity. In a society where employment is guaranteed (e.g. via a job guarantee), where education and training is available elsewhere than on the job, where wage-labour is only a small part of overall economic activity, and where businesses pursue a mission of social benefit instead of financial gains, this worry should disappear.

The case against the maximum wage is less developed. Few argue that it is morally unjustifiable because individuals create wealth through their own labour, which they should be

[1] Analysing the highest wages in France, Insee (cited in Terra Nova, 2012: 29) reports that in 2007, 78% of top 10% salaries and 87% of top 1% salaries are attributed to men (whereas men only constitute 55% of all employees). The inequality is even starker at the international level: among the 2,153 billionaire in the 2019 Forbes list, only 252 are women (Forbes, 2019 cited in Abraham, 2019: 111).

free then to own (notice the problematic exclusion view of property). Another version of this argument is that the loss of income during long years of education and training should be compensated.[1] Others take a more pragmatic stance and say that capping wages may result in undesirable consequences, such as high-wage workers moving abroad or a slow of down of innovation.[2] Some may argue that above-normal remuneration attracts talent.[3]

Again, the three last criticisms (education, exodus, and recruitment) become irrelevant in a society where moneymaking is no longer the governing rule of social organisation. As for private ownership over the fruits of one's labour, it relies on a disputable theory of value. Labour is only one production factor among a variety of others (try to create Facebook without a computer, friends, food, or breathable air) and cannot thus command the absolute property of the outcome of production.

In the grand task of reducing economic inequality, regulating wages and incomes is perhaps the easiest change. This is because it does not affect accumulated wealth (the stock) but only the accumulation of wealth (a flow), thus weakening the endowment effect (one feels less possessive over money one has not yet received). The more difficult task of redistributing wealth is the question we now turn to.

Reducing wealth disparities

Piketty and Zucman (2014) announce it loud and clear: "capital is back." This statement echoes the work of Piketty (2013) who has shown that wage inequality is marginal in comparison to wealth inequality.

In France today, the top 10% richest own half of existing wealth while the top 1% owns a quarter (Frémeaux, 2019: 7). In 2015, the median wealth after tax was €158,000, with the average wealth of the top decile at €1.25 million, so 630 times higher than the average €2,000 of the poorest decile (OdI, 2019: 61). This means that the bottom half of the population only own 8% of total national wealth.

While a worker at minimum wage would need to work between 600 and 1,400 years to reach the annual professional income of an SBF 120 executive, the same worker would need to work more than a million years to reach the professional wealth of any of the seven wealthiest French individuals (ibid. 63). For instance, to match the professional wealth of Bernard Arnault, n°1 richest French citizen (ranked n°4 in the latest *Forbes* "billionaire of the world" list), an employee at minimum wage (€1,200 a month) would need to work for 4 million years. Comparing Arnault's wealth (73 billion euros) to the average wealth of the poorest decile (€2,000), the ratio is of 1:36000000.

[1] Ramsay (2005: 205) points to an assumption underlying this argument: "training, intellectual effort and risk taking are something arduous, rather than interesting, stimulating or exciting, and that they are more demanding and costly and therefore more deserving than hard physical labour, technical training or the risks involved in other forms of work." Applied to my situation, it seems hardly fair I should receive a higher than average pay just because I spent the last twelve years enjoying the stimulating lifestyle of a university student, especially because I did so free of charge by benefiting from an education collectively financed via taxation.

[2] The risk of worker exodus and innovation slowdown could be remediated by the setting of international labour standards and a change of the underlying motivations for research and innovation (see Chapter 7: The end of innovation).

[3] To that Ramsay (2005: 207) retorts: "if financial advantage were the only reason why people wanted to become doctors, lawyers, politicians and businessmen then it is doubtful that they would be the best people for the jobs in question."

Only acting on wages or income to reduce economic inequality would be like turning the air conditioning off the reduce the fuel consumption of a car: useful but marginal. More short-term and straightforward would be to directly take from the rich to give to the poor.

The logic is similar to the argument I have made for wages: there should be both a minimum wealth and a maximum wealth. This is another direct application of the principle of sufficiency. And again, such redistribution can be justified on the ground that the value was appropriated unfairly (via economic rent, privilege, or violence) or that because its consequence – wealth inequality – is detrimental to the common good. After a certain threshold, additional wealth should be considered excessive, especially in a context where the basic needs of part of the population remain unmet.

Campaigning against wealth makes environmental sense if it reduces the polluting power of "egregious emitters" (Kennedy et al., 2014), the "polluter elite" (Kenner, 2019), "the Rich and the Dirty" (Spangenberg, 2014), or the "rich [who] are destroying the Earth" (Kempf, 2007). According to Oxfam (2015) and Chancel and Piketty (2015), the poorest 3.5 billion of people in the world only cause 10% of global greenhouse gas emissions while the richest decile generates half of all emissions.

Disparities within countries are smaller but nonetheless significant. For example, Girod and de Haan (2009) find a spectrum ranging from 5 to 17 tons of yearly CO_2-equivalent per capita among Swiss households. McCarthy (2015) estimates the global consumption of luxury goods in 2014 at US$1.1 trillion – including US$437 billion spent on luxury cars, US$278 billion on personal items such as clothing and jewellery, US$23 billion on private jets, and US$8 billion on yachts. In comparison, the global market for electric vehicle was $118 billion in 2017 (Kumar, 2019), so one fourth of what is being spent on luxury cars.

Lynch et al. (2013) go as far as arguing that excessive consumption should be considered a form of "green crime." In Lynch et al. (2019), the authors calculate the ecological footprint of four types of products only consumed by the richest (super yachts, homes larger than 25,000 square feet, luxury cars costing more than $42,000, and private jets). One number among many: the global fleet of 300 super yachts produces 640 million pounds of carbon dioxide emissions, representing roughly the emissions of the 10.6 million inhabitants of Burundi (ibid 7). Along the same lines, Barrau (2019: 95, mt) castigates the driving of SUV as "environmental delinquency."

If reducing inequality is the goal, it remains that the redistribution of wealth cannot happen all at once like a shuffling of cards. Instead, it is made of several processes of varying speed and effect. A value-added tax (*taxe sur la valeur ajoutée*) on luxury products such as caviar (one of the only type of food in France whose VAT rate is not 5.5% but 20%) is paid instantaneously at purchase point. This is also the case of excise duties, per-unit tax imposed on specific manufactured goods to be paid per item purchased and not in proportion of their price (currently gasoline, tobacco, and alcohol). This is perhaps the least ambitious form of redistribution, which then happens gradually through consumption. From a degrowth perspective, this is not a sustainable form of redistribution for that it relies on the consumption of commodities. If the price of nature-intensive products should indeed increase, it should be to deter from their consumption and not to generate revenues (which would otherwise pit environmental objectives against social ones).

One of the most direct form of redistribution is the Solidarity Tax on Wealth (*impôt sur la fortune*), which is a yearly tax on personal wealth. While this particular policy tool was modified (and renamed) recently and lost some of its redistributive power (more on this in the instrument section below), its essence is precisely what is called for by degrowthers: create a bridge where wealth can be transferred from the top to the bottom of the distribution. This will be the central policy instrument of the policy bundle I will suggest for the present goal.

The inhabitation tax (*taxe d'habitation*) and the property tax (*taxe foncière*) are also paid on a yearly basis, this time depending on the features of dwellings ones inhabits and owns. In theory, these taxes have a redistributive effect because they are indexed on the value of one's dwelling – so in 2015, the wealthiest 10% paid an average of €1,270-1,900 when the rest of households only paid €530 (Insee, 2018b).

Another opportunity of redistributing wealth happens at the death of an individual through the inheritance tax. Being able to keep one's wealth within family lineage reproduces inequality. If the economy is a game where everybody should start with roughly equal positions, then there should be a time where the game re-starts completely.

In the same way that one can accumulate wealth, it is also possible to accumulate debts. Redistributing debt (often called *restructuring*) is precisely the same as redistributing wealth. If debtors are poor, and creditors are rich, cancelling a debt effectively redistributes wealth from rich to poor.[1] "What the collective strike is to the class of workers in industrial capitalism, collective default is to the class of debtors in financial capitalism" (Bjerg, 2014: 260). The same logic is true for public debt. If the debt is the result of the State providing welfare (often to the poorest) and if it was financed by the surplus of rich private individuals, then cancelling the debt is effectively redistribution from rich to poor, either nationally or internationally.

In fact, when a country services its debt, it transfers public revenues to creditors. This creates a vicious circle: if the State lowers taxation for the richest household (e.g. by removing the *Solidarity Tax on Wealth* like the Macron government did), and if it does not decrease spending accordingly, it must then borrow the difference on financial markets. The ones it borrows from are often the same rich households' savings that were left untaxed in the first place, and which are now placed in investment funds. The concentration effect is double: not only are rich revenues not reduced via taxation, but they are increased via debt servicing. This becomes especially problematic when new loans are contracted as to finance the servicing of past debts, and this *ad infinitum*, which adds another driver of inequality.

While these policies seize wealth from those who have it, redistribution requires another set of instruments to give it to those who lack it. I will discuss those instruments in detail in the objective *Ensuring universal provision*. But before this, let us discuss the sharing of wealth in the form of objects.

Sharing objects

"Reduce the global consumption of objects," announced the French degrowth party in its campaign during the 2017 legislative elections. The necessity of an evolution of ownership

[1] For example, Hickel (2017d: 260) proposes to write off the debt of poor countries that have already paid "their debts plus the equivalent of a modest rate of interest – say 2-3 per cent per year at most, enough to cover the creditors' inflation losses." He also pleads for enshrining the right to default into international law.

rules having to do with certain objects derives from the simple realisation that, for the sake of ecological sustainability, the overall volume of material stuff must go down. The key question is the following: What should a single individual be allowed to own?

Redistribution can also involve redistributing an existing piece of property into inexistence. Hyper-consumers should own less things, that is the quantity of possessions should decrease. In the same way that transforming work is first and foremost about working less, transforming property is first and foremost about owning less. From this perspective, voluntary simplicity can be seen as a specific philosophy of property, with *downshifting* and *minimalism* being its practical application.

This becomes problematic if some people do not have access to objects they would need to satisfy their human needs. And yet, this apparent paradox can be easily solved. As I have showed earlier, the logic of positional competition in a consumerist and materialist society means that individuals compete against each other using objects as marker of prestige, with disastrous social and environmental consequences. This is made possible and desirable because objects can be privately own. But it could be made impossible and undesirable by a change in property regime, from private to either public or communal.

One way to remedy this problem is to share objects more – create institutions, and ultimately a culture, of sharing. Said differently: less objects but more diverse entitlements to their use. This shift from well-having (objects as tokens of prestige) to well-being (objects as satisfiers of needs) involves a number of different options, each with different ownership structures. In this part I discuss three potential alternative regimes: servitisation, public objects, and object commons.

Servitisation

What has been term servitisation (Vandermerwe and Rada, 1988) is when companies transform a product (i.e. a material artefact) into a service[1] – which then becomes a *product-service system* (Goedkoop et al., 1999; for more definitions, see Tukker, 2015: 81).

For some authors, such strategy should be part of a degrowth agenda (Reichel and Seeberg, 2011: 4). Servitisation can indeed reap ecological benefits. It gives incentives to the provider to make durable products (Evans et al., 2007), improves rates of recycling (Tonelli et al., 2009), reduces risks of rebound effects (Tukker and Tischner, 2006),[2] and fosters eco-innovations (Manzini and Vezzoli, 2003). In that sense, servitisation can be understood as part of a broader Corporate Social Responsibility strategy where firms extend the responsibility they have over their products by changing rules of ownership.

And yet, servitisation does not escape the economy, and thus from the perspective of degrowth, does not go far enough. Servitisation might be changing the way customers buy and vendors sell but not the fact they buy and sell. It might nudge both producers and consumers into greener behaviours, but the logic of for-profit selling and for-utility purchasing remains unchanged. Turning a product into a service does not decommodify it, it does not make it more

[1] Well-studied examples include: printing (Mont, 2001), baby prams (Mont et al., 2006), office furniture (Besch, 2005), aero engines (Howells, 2000), mobile phone networks (Davies, 2004), healthcare equipment (Tonelli et al., 2009) car sharing (Kriston et al., 2010), and solar power cells (Shih and Chou, 2011).

[2] Although it is not clear whether softening the *direct rebound effect* of consumers is (over)compensated by an *indirect re-investment* effect of the profits generated via servitisation (one of the argument of Chapter 2).

convivial (to the opposite, services rely on the expertise of the firm), and it keeps users of the product in the role of passive consumers.

Public objects

The second option is public objects, that is material artefacts whose access is guaranteed to all by public authorities (one could also speak of *nationalisation* or *collectivisation* of a product). Street benches, outdoor gyms, and bike-sharing schemes are good examples of how objects can be used collectively under the supervision of public authorities. This is already happening for a variety of goods and services – you do not need to have your own road, street lights, and firefighter unit as these are financed via taxation for collective use. One objective for degrowth is to extend this logic to objects that are today mostly managed via private property (e.g. cars, gardens, home appliances and other tools).

A strength of these systems is that they rely on collective agreement, which fits well with degrowth's aspiration to collectively define needs. In contrast, a company can decide to servitise electric scooters out of its own will. By the time public authorities get to regulate these scooters, they have already proliferated (sometimes beyond limits), having already changed people's mobility habits. Another strength of a public object system is the legitimacy of the State, which acts as a guarantor of reciprocity. Whereas one may be unsure if Couch Surfing will still exist in a year, a public scheme has the advantage of stability and continuity (even though this is not always true. Couch Surfing is up and running since 1999; not all public schemes can boast such success).

But the fact that public authorities buy these products and services from private for-profit firms brings us back to the initial problem. Additionally, public objects are limited in range for that they must reduce diversity in order to be able to please a majority of people. A bike-sharing scheme will allow you to access an average bike, but not a cargo bike, a downhill bike, or a unicycle. Another weakness of these systems is that they are most often financed, designed, and run in a top-down manner, with little involvement from the user side. One could add that, they are dependent on political will, which in times of neoliberal austerity, can cause their demise.

Object commons

The third option is what could be termed an object commons, that is a network of organised reciprocity around the sharing of objects. This can be organised at different scales: local via physical spaces (e.g. *ressourceries*, or shared laundry room), regional or even national via an online network (e.g. the Mutum and Ouishare object-sharing platforms in France). The same logic can also be applied to services (e.g. Couch Surfing for housing, Mobicoop for car rides).

What do these systems mean in terms of ownership? This is a *socialisation* of private property where private ownership turns into *trusteeship*, the Gandhian notion of property where any possession that exceeds personal needs is rendered available to the community. It means that even though the object might be mine, I have a responsibility to make it available through others should they need them (even though its property remains mine). Trusteeship is private ownership with a social conscience; it is, after all, how most people naturally treat their own

possessions within their family, friends, and neighbours. An object-sharing network is simply an extension of that logic to more people – it is a form of material philanthropy.

An important aspect of object and service commons is that they often preclude the possibility for unlimited accumulation. There is no point accounting millions of the good reviews being used as social currency on Couch Surfing, I just need *enough* good reviews to convince hosts to accept me on their couch.[1] This is a purely use-value focused logic. Besides, the fact that these systems use special-purpose tokens that are non-transferable (a good review on Couch Surfing only has value on the platform, and I could not use it to buy bread, nor could I give it to someone) limits the benefits one can derive from accumulation.

This is about property but not only. Sharing objects is also a way of entering into relations with others; it is a way of socialising, building trust, and therefore sympathy and solidarity. A *ressourcerie* can also be a *repair café* so that objects are constantly being fixed in a way that allows users to learn more about how they function, which would make them more convivial tools. They could also be paired with *fab labs* so that the people who produce their own objects could also put them in the network, using this in the design process to get feedback about the product, for example to know whether people find it useful or not.

This third option is not necessarily in opposition with the two others (servitisation and public objects). Public authorities can be a powerful ally in the setting of a commons, facilitating regulation and funding. Also, the municipality can set up a public object, and then surrender its management and ownership to a local group, thereby in effect becoming a commons. Regarding the first option, one could imagine a company providing a servitised product to a commons (e.g. a private firm selling the service of printing to a community centre). Indeed, there is no difference between individuals pooling the printers they have individually purchased from a company for collective use and the company directly selling the service of printing to them as a group. If one imagines the firm to be social enterprise with open-source technology and a user-friendly product-design that facilitates reparability, then servitisation would be compatible with an object commons.

Ensuring universal provision

Following the principle of sufficiency, everyone should have enough to satisfy their fundamental human needs. Even in a country as rich as France, this is not the case. In 2016, 14% of the French population had standards of living lower than 60% of the median standards, which represents 8.8 million people, or 820,000 more than in a decade ago (OdI, 2019: 43). By trying to directly estimate the material restrictions facing households without relying on monetary indicators, Insee (2018b: 128) estimates that 11.9% of the French population lacks access to resources.

This is a property failure with the poor holding private property over nothing, making them literally "have nots." Or more precisely, it is a *private property* failure – not the failure of private individuals but the failure of a system with private entitlements. If an economy should

[1] One may argue that, ultimately, it is the relative number of positive reviews that matter, and so that the logic of positional competition is still at play. As I have argued in Chapter 6, it is safe to assume that humans will always compete for prestige one way or another. The difference here is that, on Couch Surfing, people compete with each other via acts of solidarity, and not via private consumption with disastrous social and environmental consequences. In a way, the competition for prestige on Couch Surfing is the type of competition that would be welcome in a degrowth society.

be evaluated based on the success of its worse-off participants, the growth-based, capitalist, market economy should be up for revision.

Just like in a game of Monopoly where everybody starts with the same allowance, citizens should be granted a minimum allotment of necessities on the sole ground of being part of the community and regardless of how they perform in the game of economy.[1] In France, this logic is already partially at play for services such as education, health, and to a lesser extent housing. This publicly funded gratuity already constitutes a significant sharing of wealth: without any State services and transfers, the disparity between the living standards of the poorest 20% and the richest 20% of French households would have been 1 to 5 instead of the current 1 to 3.2 (le Laidier, 2009).

There are two main ways of going further in terms of redistribution. The first is to grant everyone a monetary stipend so they can purchase whatever they deem to be of first necessity – this is the *Universal Basic Income* (UBI). Alternatively, one could directly provide these basic goods and services free of charge – a proposal I, following IGP (2017), refer to as *Universal Basic Services* (UBS). Any hybrid version of the two is also possible – e.g. the Unconditional Autonomy Allowance of Liegey et al. (2013) that includes both cash and gratuity – and it is ultimately the latter mechanism that I will defend in this chapter.

Universal basic income

The Universal Basic Income (hereafter UBI) has become one of the poster child policies of degrowth. (In fact, one could consider basic income to be the oldest degrowth policy for that it was offered by Depuydt in the special issue of the French journal *S!lence* where the term "sustainable degrowth" was coined in 2002.) The idea of a UBI is simple: all members of a community (hence *universal*) are granted a minimum income (hence *basic*) without any conditions in return.

The term "basic income" is present in most lists of degrowth transformations and even given an entry of its own in *Degrowth: A Vocabulary for a New Era* (see Alexander, 2015). And yet, the specific features of a degrowth UBI remains to be explored in detail. The idea of a basic income has a long and rich history spanning back to Thomas Paine's *Agrarian Justice* at the end of the eighteenth century (for a selective history of basic income proposals, see Lepesant and Mylondo, 2018). Proposals are indeed manifold, from Friedman's (1962) Negative Income Tax and Basquiat and Koening's (2015) Liber, to van Parijs and Vanderborght's (2017) and the *Mouvement Français pour un Revenu de Base*'s (2016a, 2016b, 2017) proposals, and it remains to be determined which one would best fit degrowth revolutionary aspirations.[2]

[1] Let there be no misunderstanding. I am not here making an appeal for *equality of opportunity*, arguing that if the initial allowance is equal, it is then the sole responsibility of recipients to keep up with each other. Inequality is always a problem and redistribution should happen wherever it needs to happen and however many times it needs to happen.

[2] Let us start by changing the name. The term "*income*" or "*wage*" is grounded into productivism with its association with wage-labour and the financial returns of an investment. (This rules out, among already existing names, "negative income tax" and "universal," "basic," "guaranteed," "citizen," "unconditional," "existence," or "participation" income.) In the same manner, "national," "territorial," "social," or "universal *dividend*" makes it sound like a deserved retribution after an act of production, which carries a problematic economicist mindset. "State bonus" strengthens the nation state as a unit of power while referring, almost in a game-like fashion, to something extra, exceptional and unexpected. This is problematic because it runs the risk of stigmatising recipients who perceive such income without working. It also carries a notion of economic reward, income as remuneration, which might suppress sentiments of solidarity and reciprocity. Even though Van Parijs (2001: 5-6) makes a good case for connecting to the notion of *basic* needs, "basic" rhymes with cheap and minimal, at least in a consumer society. Other

As of now, only a handful of authors have proposed detailed basic incomes in a degrowth perspective: let us mention here the *Simplicity Entitlement* of Alexander (2011), the *Unconditional Basic Income* of Mylondo (2010, 2012), the *Unconditional Autonomy Allowance* of Liegey et al. (2013), the *Ecological Basic Income* of Schachtschneider (2014), the *Green Basic Income* of Bourg and Arnsperger (2017), and the *Ecological Transition Income* of Swaton (2018). What makes these proposals different from the bulk of other UBI designs is their amount (which degrowthers argue should be enough to live a frugal lifestyle), the way it is financed (involving broader redistribution, for example via a tax on wealth, a maximum income, or eco-taxes), and the form it takes (trying to avoid potential rebound effect by, for example, granting part of the UBI in local currency).

As for purpose, the UBI is made in line with degrowth on a number of objectives. Additionally to the goal of eradicating poverty (and then also eradicating the strive for GDP in the name of poverty eradication), it is argued that it could improve the bargaining position of employees and improve working conditions[1]; remunerate the social contributions that are today unpaid; reduce obligations to engage in paid employment (which would then also decrease governmental growthmanship in the name of job creation); empower women by granting allowance to individuals and not to households[2]; finance education and therefore contribute to building up individual autonomy; and finance socially useful activities that do no generate money.

In a world where everything one needs requires money, a UBI grants a certain autonomy from the imperatives of the economic world. But this is not the only way to reach this objective.

Universal basic services

The idea behind an open access to basic necessities has been called many names: "universal basic services" (IGP, 2017), "social infrastructure" (Slocock, 2018), "gratuity" (Ariès, 2018, mt), or "social citizenship" (Marshall, 1965). Essentially, it is a granting of access to certain goods, services, and amenities as social rights, that is regardless of income, wealth, or any other economic criteria. Gratuity is "a demonetarised universal basic income" (Ariès, 2018: 63, mt). In property terms, the means of living a decent life (the social minimum threshold) is owned in common, with no restriction of access, that is free of charge at purchase point.

Originally developed by the *Institute for Global Prosperity* in 2017, the Universal Basic Services (UBS) follows the same logic as its historical ancestor, the Universal Basic Income (UBI). The UBS is defined as "the provision of sufficient free public services, as can be afforded from a reasonable tax on incomes, to enable every citizen's safety, opportunity, and participation" (IGP, 2017). In a later publication, Coote et al. (2019: 7) clarify the terms used in the name: "*services* mean collectively generated activities that serve the public interest; *basic* means essential and sufficient rather than minimal, in that these collective activities enable people to meet their needs; and *universal* means that everyone is entitled to services that meet their needs, regardless of ability to pay."

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names more compatible with degrowth include the "demogrant" of Tobin (1967), the "simplicity entitlement" of Alexander (2011), or the "allocation universelle" of the Belgium Collectif Charles Fourier (1984).

[1] The UBI is a "right to an indefinite strike" (Cattaneo and Vansintjan, 2016: 13-14).

[2] The UBI is the economic ability to say no either to a boss, a bureaucrat, or a spouse (van Parijs, 2013: 174).

In their UBS, the Institute for Global Prosperity listed seven free public services: *health car*e, *education*, *legal and democracy*, *shelter* (zero-rent social housing exempted of Council Tax and including a utilities allowance), *food*, local *transport* (extension of the existing Freedom Pass to everyone – it is currently reserved for people over 60), and *information* (phone, Internet, and the *BBC* TV license fee). The total cost of the program for the UK is estimated at 2.3% of GDP. In their second paper (Coote et al., 2019), they also include *childcare* and *adult social care*.

A UBI can come to complement – or substitute part of – a UBS. Advocates of UBS have spent considerable effort to argue that their scheme was superior to UBI (e.g. IGP, 2017: 13; Gough, 2019: 8) and comparatively little to examine their hypothetical complementary roles. A good example of complementarity is Liegey et al.'s (2013) *Unconditional Autonomy Allowance*, where part of the allowance is entitlement rights to specific goods and services. This proposal makes a difference between drawing rights (e.g. housing, food, clothing, energy, water, and transport) and access rights (education, health, culture, and information). Access to food, for instance, would be guaranteed by the granting of a special-purpose currency to purchase local food products; a base quantity of water, energy, and gas would be free of charge; local public transports would be fare-free; and access to information will be guaranteed via the public funding of newspapers.

This would reduce inequality because these basic services represent a disproportionately higher portion of low-income budgets – the so-called *incompressible expenditures* that a household cannot avoid (e.g. rent or mortgage, water, electricity, insurance). In France, whereas these expenses went from 24% in 1979 to 48% in 2005 for the 10% poorest households, it only went from 20% to 27% for the 10% top-earner households (CNLE, 2012). Giving access to these services free of charge would first benefit the poorest – it would represent what is commonly called a *social wage* to destitute households (*social wage* because the gratuity of the public services comes to liberate part of an individual's income).[1]

This is not new. It is the logic behind social security. In France, it already concerns a basic access to healthcare, judicial protection, or vouchers for energy. As for cash allowances, there exist a variety of benefits (unlike a basic income, however, these are only available under certain conditions). In a similar spirit, the law defines a list of basic items (*biens insaisissables*, un-seizable property) that cannot be expropriated from any individual should they default on their debts (e.g. clothing, bed and bedsheets, heaters, telephone). Since 2013 (n°2013-312), it is illegal for water companies (private or public) to cut the water supply of an indebted household, while it is the same for electricity and gas during Winter. Since 2018, an energy voucher (*chèque énergie*) of between €48 and €277 is automatically sent to households under a certain income; they can use it to pay their invoices for electricity, natural gas, wood, heating fuel, as well as energy-saving renovations. What is proposed under the name of Universal Basic Services (UBS) is an extension of this social safety net to a wider pool of goods.

This proposal is particularly appealing from a degrowth perspective because it reduces the need for money to live a decent life, therefore going in the direction of reduced commoditisation. Because these goods, services, and amenities are offered free of charge, all

[1] The *social wage* is often traced back to Tawney (1952): "the standard of living of the great mass of the nation depends, not merely on the remuneration which they are paid for their labour, but on the social income which they receive as citizens."

financial incentives become irrelevant. Additionally, a UBS requires periodic deliberation about what it should include and therefore represents an opportunity for a democratic collective setting of needs that is perhaps more concrete that setting an abstract UBI amount. (I am thinking here of procedures like the "dual strategy" of Doyal and Gough (1991) where experts and citizens work together in deliberative forums to identify which goods and services should best satisfy needs in a particular social context.) If run locally, a UBS scheme could enable a decentralisation of the governance of crucial resources.[1]

Some would argue that "UBS would lead to big government, centralised power, paternalism and social engineering; [that] the state is not competent to run them; [that it will enable] further accumulation by big business; [that it is] too costly; [or] incompatible with capitalism" (Coote et al., 2019: 18). But all of these worries disappear if one decentralises the management of such commons at the level where they work best and most democratically. In that sense, a UBS can be a vehicle for a decentralisation of economic life, with a diversity of businesses and associations participating in the schemes, such as co-operatives, for-employment firms, or banks and other local currency initiatives, with the State (and especially local authorities) only acting as a facilitator.

Policy instruments for redistribution: Income and wealth limits

The task being an old one, policies to reduce inequality are manifold. What should be done now is to determine which ones are most relevant from the perspective of degrowth and which variants of them is most appropriate for the French context. The main idea behind this goal is that there should be limits, both minimums and maximums, on private possessions. I suggest three different instruments: one upper limit on income (*maximum income*), one upper limit on wealth (*maximum wealth*), and one lower limit in both income and wealth (*autonomy allowance*).

Maximum income

The simplest way to ensure that income do not become a vector of inequality is to place boundaries on what individuals can earn. The logic of progressive income taxation is well-known and has been tried before, with the United States as an often-cited case-study.[2] The maximum income, as a form of progressive income taxation, is one of the most popular degrowth demand.[3] The design of an income cap involves two choices having to do with the nature of incomes eligible for taxation and the rate at which they should be taxed.

[1] In the original report introducing the UBS, Portes (2017: 24) writes: "An important aspect of UBS would be the opportunity it could give to rejuvenate local democracy and local involvement in the design, financing and delivery of local services. Almost all public services are, necessarily, delivered locally, but there is an inevitable tension between national standards and local autonomy and control. While with some existing universal services – especially health – there is a strong public view that quality of service and access to services should be broadly uniform, that need not be the case for all services. Responsible, effective and accountable local government – with financial autonomy – will be necessary for the practical implementation of UBS."

[2] In 1944, the American Congress set a 94% tax rate on income, and top marginal income tax rate remained over 80% until 1963, when it started to decline – it was 37% in 2018 (TPC, 2019). In 1960, the top rate was at 91%, which was close to 100 times the average national income per adult, which would be the equivalent today of a yearly $6.7 million (Saez and Zucman, 2019).

[3] In 2006, Divry proposed a "*salaire interprofessionnel de décroissance*" (interprofessional degrowth wage, mt) whose level would be defined in relation to the minimum wage. The French Party for degrowth proposed an income cap 3 times the minimal wage at the 2007 legislative elections and one 4 times the minimal wage at the 2019 European elections – same 1:4 suggestion

(1) Which incomes?

The first decision I make is the following: all forms of income should be subjected to limits. This includes income from labour (wages, bonuses, pensions, and unemployment benefits) and income from capital (dividends, interests, profits, and rents). It is therefore the total income of all individuals residing in France that should be considered for income limits, and this because degrowth aims at a redistribution of all forms of economic wealth.

(2) At what rates?

Now the difficult question: at what rates should income be taxed?

I should start by clarifying the difference between *progressive income taxation* and a *maximum income*, the two policy instruments being often put side by side in certain degrowth agendas. Pushed to a certain level, a progressive income taxation becomes, in effect, a maximum income – e.g. the top marginal rate of 99.99% proposed by Ferguson (2013: 412). The main difference between the two proposals is economic, symbolic, and legal. *Economic* because, in the long-term, a maximum income phases out income above that threshold while progressive income taxation relies on it as a steady source of revenues.[1] *Symbolic* because a maximum income sends a clear message that inequality should be absolutely bounded. And *legal* because a maximum income is, in the French context at least, likely to be considered anti-constitutional (historically, the highest rate reached 65% in 1983), even though this is not an unsurmountable obstacle.[2]

In France, the *impôt sur le revenu* (income tax) concerns wages, pensions, capital gains, rents, and real-estate appreciation. The current rates of income taxation are as indicated in the table below (percentages apply to annual income per member of household). Historically, the current maximum rate of 45% is at its lowest since the 1930s – it oscillated around 50% during most of the century (going as high as 70%), before being lowered in the mid-2000s (Piketty, 2019: 49).

Until €9,964	0%
Between €9,965 and €27,519	14%
Between 27,520 and €73,779	30%
Between €73,780 and €156,244	41%
Above €156,245	45%

To contextualise, the average income before tax in 2016 was €23,378 (Insee, 2018c). In 2017, the revenues of the income tax totalled 77,6 billion euros, representing 21% of the public budget

for Cheynet (2008: 105-106). The stirring paper of the Working Group n°12 of the Barcelona conference proposed a "maximum range of incomes (from salaries to capital) from 1 to 5 in France and European countries" (Plihon et al., 2010). Liegey et al. (2013) include a "maximum acceptable income" in their universal basic income proposal. Kallis and R&D (2015) propose a 1 to 30 ratio (ceiling at 12,000-18,000€ monthly) for Spain (same than the French think-tank *Sauvons les riches* – save the rich).

[1] Indeed, it was the 10% richest households (with an income above €50,000) who paid most – 70.4% – of the income tax in 2016 (Decarre, 2017).

[2] This latter aspect is not insurmountable. The United States did modify its Constitution in 1913 to accommodate for a federal income tax. Richard (2017) proposes that the same is done for France with the addition of a paragraph stating that there should be upper boundaries on possessions, in the name of liberty, equality, and solidarity, and that these limits apply both to wealth and income. One could add to that Piketty's (2019) suggestion to write down that all taxes ought to be non-regressive.

(Legifiscal, 2019). The French national statistical agency (Insee cited in Terra Nova, 2012: 17) considers as "very high income" the 1% highest salaries (above €124,573 per year before tax, concerning 133,000 people in 2007) and "high income" the 10% best salaries (above €51,300 per year before tax, concerning 1.3 million people). This means that in the current system, the income of the richest households is taxed between 30 and 45%.

From the perspective of degrowth, this is not enough. There are three ways of going about changing that system. (1) Either create new categories. For example, Terra Nova (2012: 55) proposes to create two new categories of income tax set at 50% on all incomes above €100,000 and 60% on incomes above €300,000. (2) Modify existing categories, like Richard (2017) proposing to set the fifth bracket (above €156,245) as a maximum income taxed at 100%. (3) Or create a new set of brackets all together like Piketty (2019: 1130): seven brackets ranging from 10% to 90% set as ratios of average income (e.g. any income above 10 times the average income would be taxed at 60% and any income above 10,000 times the average income would be taxed at 90%).[1]

If the goal is to set a maximum income, then one should decide at what amount to place such threshold. One method consists in setting absolute thresholds like it is currently done in the French income tax system. Here are a few examples of proposals going that direction: €360,000 for presidential candidate J.L. Mélanchon during the 2017 campaign; $300,000 a year for Alexander (2011); £138,000 for Jeremy Corbyn as reported by Mason (2017).[2] An absolute cap of this kind is problematic on several accounts. First, it does not account for inequality. Capping yearly incomes at €1,000,000 has different consequences whether it is implemented in Luxembourg or Malawi. A 1-to-10 ratio (I am picking a random number), on the other hand, could be implemented everywhere, thus facilitating international fiscal cooperation. In a shrinking market economy, an absolute cap would constantly need to be discussed, which makes it more difficult to operationalise.

So I favour the second method which consists in setting the upper threshold as a ratio of a set income. For example, in France, employees of ESUS-status businesses belonging to the Social and Solidary Economy (ESS) can earn a maximum of ten times the minimum wage (€182,546 annually).[3] This is Pizzigati's (1992, 2004) approach with his "Ten Times Rules" that imposes a 100% tax rate on all incomes ten times larger than minimum income – e.g. £100,800 (€114,120) for Ramsay (2005) applying the ten times rule to the UK.[4] This approach is by far the simplest for that the minimum wage is updated yearly and requires no calculation to obtain (compared to, for example, the median income, either national or within a sector or a company, that is trickier to calculate).

But how to justify such ratio? Medeiros (2006) and Concialdi (2018) both set a maximum income threshold at the level where the total taxed income is sufficient to eliminate

[1] Piketty only provides the ratio and the tax rates without any specific amounts, but considering an average income of €23,378 (the one of 2016 in France as calculated by Insee, 2018c), this would give the following threshold: bracket n°1 at 10% starts at €11,689, the bracket n°2 at 40% starts at €46,756, and as follows: 50% (€116,890), 60% (€233,780), 70% (€2.3 millions), 80% (€23 millions), and 90% (€233 millions).

[2] This was also the option chosen by the American government when they decided in February 2009 to cap the income of executives working in financial companies that had benefited from public bail-out fund at 500,000$. Same policy in Germany in October 2008 with a ceiling put at 500,000€ (Terra Nova, 2012: 45).

[3] Other examples of ratios: 1:7 for Richard (2017) in his policy proposal for France; 1:10 in the Austrian Economy for the Common Good; 1:12 in the 2013 Switzerland referendum; 1:20 as a maximum proposed by Jeremy Corbyn for companies to be eligible to public contracts; 1:20 for the *Parti Socialiste* in 2012, to be applied to all firms having the State as a shareholder.

[4] To compare, the wage ratio in an average FTSE 100 company was 1:129 in 2015 (High Pay Centre, 2016).

poverty. Concialdi (2018) starts from an estimation of the income necessary for an individual to access all the goods and services necessary to live decently and participate in social life (the so-called "reference budgets" method of estimating poverty inspired by the British "living wages),[1] which he takes as a minimum income (e.g. €1,498 for a single, working-age individual in France in 2014). He then calculates how much money would be necessary for everybody to be lifted above that threshold. Assuming that the fairest solution is to transfer that money from the richest, he then places the "affluence line" at that level where taxed revenues would be sufficient to eradicate poverty. The lower limit is "the amount of resources minimally needed for any individual to participate in society [while] the upper limit is the amount of resources above which any extra resources 'captured' by some individuals would, de facto, prevent other members from minimally participating in society" (Concialdi, 2018: 9).[2]

Just to get an idea, this would be around a monthly €6,000 after tax for a single, working-age person living in France in 2014. This is €90,000 yearly income before taxes and would concern around 1-2% of all employees in 2014 (Concialdi, 2019). Taking €1,500 as a minimum income, this would mean limiting incomes at a 1:4 ratio. How disruptive is it compared to the rates in place today? Roughly, this would correspond to 2.41 times the current rate of taxation (41% on income above €73,780) or double the one that Piketty proposes (50% after €116,890).

Radical for most but around the ranges of what degrowthers propose. The Concialdi ratio is around the ones one can usually find in the degrowth literature (between 1:3 to 1:5) and so I keep his range of €1,500 (min.) - €6,000 (max.) as a reference for income limits in the remaining of the thesis. Mixing this ratio with both the current brackets and Piketty's (2019) proposed new brackets, one would end up with a progressive income taxation looking like that.

Brackets	yearly income	tax rate
1	until €9,964 as in current lowest tax income bracket	0%
2	between €9,964 and €18,255 14% today	10%
3	between €18,255 and €46,756 between 14% and 30% today	20%
4	between €46,756and €73,779 30% today	40%
5	between €73,779 and €90,000 41% today	80%
6	above €90,000 between 41% and 45% today	100%

Wealth ceilings

As I have argued earlier, the wealth gap is wider than its income counterpart. Because there are more forms of wealth than they are forms of income, the setting of maximum limits is more

[1] Inspired by the "Minimum Income Standards" in the UK which later became the "living wage" (e.g. D'Arcy and Finch, 2018), the *Observatoire national de la pauvreté et de l'exclusion sociale* (ONPES) calculates "*budgets de référence*" (reference budgets) by asking groups of people to agree on what goods and services they need to live decently, and then monetising these products (for the ones that are not available free of charge).

[2] In a similar spirit, Robeyns (2016) calculates a "riches line" via a monetary estimation of capabilities including not only a sum of all one's incomes minus expenses, but also a household equivalence scale and, most originally, a conversion factor to account for the ability of a person to turn income into functionings – so the threshold will be lower for an individual belonging to a large family or one who has special needs, for example associated with a disability.

difficult. Here I follow the proposal by Richard (2017) to tax personal wealth at 100% after it has reached 100 times the median net annual wage, that is around €2 million per person. Just like the previous discussion on maximum income, I first specify the nature of wealth eligible for taxation and only then the rates at which they should be taxed.

(1) Which wealth?

I will begin here: Which wealth? Wealth can be understood as the total monetary value of estate, professional, and financial assets, minus debts like mortgages or consumption debt (Piketty, 2019). To simplify, let us with Concialdi et al. (2019) call these three types of private wealth: *domestic property* (e.g. land, house, cars, pieces of furniture being directly used by their owners), *professional property* (e.g. shares in a company where one works, office buildings), and *financial property* (e.g. banks account both spending and saving, investments, rented property, company stocks, life insurance, and all other financial products).

In France, these different forms of wealth are taxed separately. The main tax on domestic property is the inhabitancy tax (*taxe habitation*) which is a local tax indexed on the features of the dwelling, its location, and the income and family composition of the ones currently inhabiting the place. It is paid by the inhabitant of a dwelling regardless of the fact whether they own or rent it – the national average was €768 in 2018, it ranges in Paris from €364 to €1,131 (Fingonnet, 2017). The current property tax is regressive because it does not account for debt (Piketty, 2019: 1144). For example, two people living in two different houses valued at the same price would pay the same property tax even though one may have inherited a full ownership of the dwelling while the other recently purchased it by taking a mortgage at 80% the value of the house.

Another tax, the property tax on build estate (*taxe foncière sur les propriétés bâties*) is paid by owners (households under a certain income threshold – €10,988 – are exempted). It is calculated based on the rental value of place and varies from city to city (e.g. around 6.75% of annual rental value in Paris, so around €1,620 per year for a €2,000-monthly rent apartment). The rest of domestic property is unrecorded, even though it might be taxed at the point of purchase depending of the product.[1]

The latest version of the personal wealth tax ("*Impôt de Solidarité sur la Fortune*" or ISF, Solidarity tax on wealth) ranged from 0.5% (starting at €800,000) to end at 1.5% for wealth above 10 million euros.[2] There was a 30% rebate on primary residence and the tax was capped at 75% of income (meaning someone cannot be expected to pay more than 75% of their income in taxes, including income tax). In 2018, this tax was replaced by the "*Impôt sur la Fortune Immobilière*" or IFI (Tax on real estate wealth, mt), the only change being that it now excludes financial property. This reform benefits the wealthy because the 1% richest households own

[1] For example, owners of boats must pay an increasing fee per CV after the limit of 5CV (maximum fee is €64 per CV above 100), and depending on the length of the boat (maximum fee is €886). Cars above 36CV are taxed €500 per additional CV with a ceiling of €8,000 reached at the 51th CV – this represents, for example, €5,000 for a Porsche Cayenne Turbo. Since 2018, there exists a *taxe sur les métaux précieux* (tax on precious metals) of 11.5% of selling price applying to gold, platinum, silver, and other precious metal scraps. An older tax applies on the sales of precious objects such as art pieces and antiques (6% of selling price). Swimming pools larger than 10m^2 are taxed 200€ per square meter, additionally to the local *taxe d'aménagement* applied to house extensions.

[2] Here are all the brackets of the *Impôt de Solidarité sur la Fortune* (ISF): 0.5% for [€800,000 to 1.3 millions], 0.7% for [€1.3 to 2.57 millions], 1% for [€2.57 to 5 millions], 1.25% for [€5 to 10 millions], and 1.5% above €10 millions.

64% of financial wealth (Richard, 2017: 155) and households owning more than €10 million keep 90% of their wealth the form of financial property – whereas it is only 2% for households who own less than €7,500 (Chavagneux, 2019b).

The inheritance tax (*droits de succession*) is paid independently by each successor based on the net assets they have either inherited or received as a gift. As of today, parents can pass property up to €100,000 without any taxation. Above this level, an inheritance tax gradually increases from 5% (for less than €8,072 above the threshold) to a maximum of 45% (for €1,805,677 and upwards above the threshold).[1] Lifetime gifts of up to €100,000 can also be given without being taxed, but only once every fifteen years, and under the condition that the donor is less than eighty years old and the recipient over eighteen.

The problem with this system is that it disproportionately benefits the rich. First because of its exemptions. For example, reduced rates on life-insurance – representing 23% of all transmitted wealth in 2015 (Frémeaux, 2019: 95) – have no impact on the tax rate of the bottom 70% of the population whereas it lightens the inheritance tax of the top decile by 2% and of the top 0.1% by 6% (Brugère et al., 2019: 8). And also because the €100,000 threshold is almost twice the average inheritance – it is only 12.8% of inheritances that are above €100,000 (Chavagneux, 2019).[2] Under this system, someone inheriting €100,001 and someone inheriting €1,100,000 would both start paying the tax after the same absolute threshold (€100,000) even though it represents a relatively smaller part of the second, largest wealth.[3]

Following Richard's (2017) proposal, I submit all forms of wealth to a single tax. Piketty (2019) does the same except he retains the inheritance tax (he is merging the property tax and the personal wealth tax). And yet, with a wealth tax with levels as ambitious as the ones I am about the present, there will be little need to have an additional inheritance tax for that wealth will be taxed before. (It is different today where 73% of all private wealth is obtained via inheritance – Piketty, 2013.) A single tax is a bit of a simplification and should, at this point, rather be seen as a provocation in order to start a discussion about wealth inequality.

(2) How much wealth?

Calculating a specific wealth cap is trickier than a maximum income. This is because income inequality is quite smaller than the wealth divide (which makes income ceilings look relatively less radical) and also because wealth takes different forms. Where one can easily calculate a *living wage* starting from the national minimum wage and adapting for circumstantial variations in costs of living, it seems hardly practical to apply the same method for estimating a *living wealth*.

Richard (2017) suggests to set a maximum wealth per person at 100 times the median net annual wage (€21,000 in 2017). This means a 100% tax rate on all wealth above €2 millions

[1] These are for parents and children, but the inheritance tax varies for sibling (tax-free threshold at €15,932, with additional funds taxes at 35% below €24,430 and 45% above), nephews and nieces (tax-free threshold at 7,967€ with a 55% tax rate on anything above), and unrelated beneficiaries (tax-free threshold at €1,594 with a 60% tax rate on anything above).

[2] In 2015, the average inheritance was €62,700, albeit with wide disparities – the average inheritance for the 50% of poorest households was €8,500 while it was €325,000 for the top 10% richest (Frémeaux, 2019: 31).

[3] An alternative would be to make the threshold after which taxation starts proportional to the amount being inherited and create more progressive brackets for smaller estates with a progressive increase in taxation rates. This is what is proposed by Brugère et al. (2019): the tax would start after €100,000 – the current threshold – for inheritance below €200,000, but would start at €30,000 for the ones above €1,5 million.

for an individual (or twice that for a couple).[1] Two million euros represent a full life (40 years) of work at €4,300 per month, and so symbolically it stands for what one could potentially earn in a lifetime of well-paid work. (In two other scenarios, he sets that threshold at €3 million – concerning 300,000 people with a total revenue of the tax at €1,355 billion – and €5 million – 150,000 people; €970 billion revenue.) Here, it is his preferred scenario, the 2 million-euros threshold, that I will follow.

In the first year of its implementation, it would mean that households eligible to the tax should decide which assets to keep and which one to surrender to public authorities. The revenue of the tax will then be partly in cash and partly in assets (real estate, company shares, and financial assets). In Richard's (2017) design, all these assets would become the property of a public organisation that would run like a foundation or a sovereign wealth fund.

In the author's estimation, this would concern 1% of the French adult population (500,000 people) who own an average of €5.5 million for €2,750 billion in total. Their assets are composed of 33% professional property, 32% domestic property (half of it being the house they live in), 31% financial property, the remaining 4% being personal possessions. The average amount taxed would then be €3.5 million with a total revenue of €1,750 billion.

This poses a problem for certain assets. For example, those who live in a house that is worth more than the upper threshold of €2 million – Richard (2017: 157-158) estimates this would be the case for 4,000 households. In his proposal, part of the value of their house would become public property, and these families would then need to pay a rent to the State (set at a maximum of 35% of income) or just move to more affordable housing.

Autonomy allowance

Sharing wealth requires not only to take but also to give back. Taking together all the redistributive measures currently existing in France, their impact reduces poverty rates (measured at 60% of median income) from 22% to 14,1% (OdI, 2018: 86). The objective here is to further that effort as to eradicate poverty completely. But which mechanism of redistribution is most fitting to degrowth? In this policy bundle, I bring together the two proposals of Universal Basic Income (UBI) and Universal Basic Services (UBS) into one single policy which I call autonomy allowance after Liegey et al.'s (2013) *dotation inconditionnelle d'autonomie* (unconditional autonomy allowance).

In summary, I argue that (1) the autonomy allowance should be granted in a mix of national currency, complementary currency, and free access to goods, services, and amenities; (2) universal in its base level but selective otherwise; (3) its long-term amount should be sufficient to provide for a frugal lifestyle (in a range between €500 and €1000 per month depending of age, wealth, footprint, activity, and geography); (4) with a substitution of existing welfare transfers only occurring for the basic services part; (5) given regularly, for example monthly; (6) financed via income taxation and complemented with monetary creation; and (7) implemented gradually in several phases.

[1] To realise how radical this proposal is, we can compare it to the – already considered radical – proposal of American presidential candidate Elizabeth Warren to introduce a 2% tax on estate above 50 million dollars, which would go up to 3% for households owning more than a billion dollars.

(1) In what form?

Should an autonomy allowance by granted in money or in direct access to goods, services, and amenities? While one may defend a cash allowance because it preserves the freedom of individuals, promote market consumption, or just for the sake of simplicity, it is problematic because it runs the risk of rebounding into more environmental pressures.[1]

There are two ways of avoiding this risk. First, the whole or part of the allowance can take the form of direct access to services, for example healthcare, education, shelter and spaces for activities, food, tools, local transport, and information. For example, in France, transport is the largest expense, representing in average 18% of households' budget – food (16%) and housing (14%) come after (Insee, 2019c based on 2017 data). Instead of giving money to make up for these expenses, one could simply provide public transportation fare-free (already the case in 10% of the 300 existing public transport networks in France – Grimault, 2019) and provide a wider range of social housing (following the model of Vienna where more than 60% of the population lives in social housing – Forrest, 2018).

The second solution is to give the whole or part of the allowance in alternative currency earmarked for specific types of non-harmful consumption. In Hornborg's (2016) proposal,[2] the entirety of the basic income is denominated in a complementary currency that can only be spent on products originating within a set geographical radius, and this in order to promote the consumption of local products. Including permits as in the Tradable Energy Quotas (TEQs) system is also a middle way between cash and services: credit smart cards with tokens that can be spent on energy products (a bit like the currently existing *chèque énergie* – energy voucher).

In the end, the precise form of an autonomy allowance would depend on context. It is impossible to give it in a local currency if there is none existing and difficult to render public services gratuitous if all of them have been privatised. In such situations, the allowance must be given in official currency. From the perspective of degrowth, however, the long-term horizon should be to phase out official money from the allowance. During a process of de-economisation, the monetary portion of the autonomy allowance would be decreasing in par with a proportional increase in the one in alternative currency or direct access to communal and public goods – the composition of the autonomy allowance then becoming an indicator of de-economisation.

(2) Universal or selective?

Should the allowance be granted to all citizens of a given community or only to certain individuals based on specific criteria (e.g. income, employment status, age, health)? While being selective makes it more effective at reducing inequality and cheaper overall for public expenses, being universal sets everybody on equal foot, saves from the costs of means-testing, and avoids the stigmatisation of recipients. As I am just about to argue below, a part should be universal and another selective.

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[1] Criticising Kallis's (2016) proposal for a "freedom income" (a universal basic income) for the United States, Burton (2016) writes that "it seems potentially naïve to think that it is going to lead to the renaissance of artisan culture and conviviality. It is easy to see this through an educated middle class alternative-society-friendly lens but at least as likely for some deprived and de-cultured sectors is expenditure on recreational drugs and pornography."

[2] "A Proposal for Voluntary Degrowth by Redesigning Money for Sustainability, Justice, and Resilience" (2016).

(3) Levels and conditions

Levels of proposed universal basic income for France vary between a few hundred euros per month to a bit more than a thousand.[1] Since I have just argued that an autonomy allowance should be a mixture of public services, alternative currencies, and official money, it would be difficult to come up with a single monthly figure.

One can perhaps imagine a range between the current *Revenu de solidarité active* (RSA) at €485 per month and the minimum wage after tax at €1,200. So just to illustrate: a low-option at €500, a middle-one at €750, and a high-option at €1000. In total, this would correspond to either 18%, 28%, or 37% of the French GDP per capita in 2018 (€32,100 yearly), assuming it is given to everyone. One could also look at poverty threshold for indication: €855 (50% of median income) and €1,026 (60% of median income) in 2016 (OdI, 2019). Granting a basic income above that level would eradicate statistical poverty.

Even though decisions regarding the amount depends on what existing welfare transfers are to be removed (the topic of the next part). Certain choices can still be taken, starting with the fact that the size of the autonomy allowance can vary in time and space. It shall be smaller for children than it is for adults (usually around 50% smaller in most proposals) and larger for retirees – 50% larger than the adult's one for people over 65 in the proposal from the Fondation Jean-Jaurès (2019).

One could also imagine an amount variating based on other factors like income and wealth. The base level of the autonomy allowance is universal (let us say the one granted in gratuity and complementary currency, starting with the weekly emission permits), but the one in official currency is only granted to those under a certain wealth and income threshold (then functioning as a guaranteed minimum income).

For example, Leandri and Maurin (2019) proposes a "*revenu minimum unique*" (unique minimum income, mt) set at 50% of the median income (e.g. €860 for a single household, €1,810 for a couple with two kids). In their proposal, the allowance would come to replace other benefits, be perceptible starting age 18 and also by asylum-seekers in wait for official papers, and be automatically given individuals below the lower income limit.[2,3] This was also the case in the MINCOME experiment in Winnipeg and Dauphin in Canada (1974-1974) where only households without an income were granted the allowance.

Building on the tax system I developed earlier, it could apply to all the households belonging to first bracket, then concerning everybody earning less than 50% of average income

[1] (Unless stated otherwise, these proposals are for France.) €200 for van Parijs' (2012) euro-dividend; €400 for Boutin (2011); €400-600 in Kallis and R&D (2015) for Spain; €450 for the liber of de Basquiat and Koening (2015) and €470 in its version defended by Nathalie Kosciusko-Morizet in her 2016 presidential campaign; €500 for green candidate Yannick Jadot during the 2016 presidential election; €550 per month in the 2017-2018 Finnish experiment; €600 for Mylondo (2006), 750€ for Mylondo (2010), and €1,000 for Mylondo (2012); €700 for Monnier and Vercellone (2007) and €800 for Monnier and Vercellone (2013); €750 for the Fondation Jean-Jaurès (2019); €750 in the Gironde experiment in 2018; €750-1000 for *Parti Socialiste* candidate Benoit Hamon during his 2016 presidential campaign and the same amount for Dourgnon (2017: 98); €800 for Cochet (2006: 100); €850 for ex-prime minister Dominique de Villepin; €900 per month in the Dutch experiment of the city of Utrecht (2016); a suggested 2,260€ per month in the 2016 Swiss referendum.

[2] In the French city of Grande-Synthe (23,632 inhabitants), a *minimum social garanti* (guaranteed social minimum) is granted to the 400 people living in poverty. (What is most original about this grant is that it was financed mostly from energy savings, especially regarding public lighting.)

[3] In a similar spirit, de Basquiat and Koening (2014) adapt the Negative Income Tax proposal of Milton Friedman (1962) for France. Renamed the LIBER (standing for "freedom income"), the scheme replaces most of the currently existing transfer mechanisms into one allowance financed by a 23% flat tax on both labour and capital. Anyone legally residing in France would receive 450€ monthly (225€ for people under eighteen).

(around €10,000 per year). Another option to achieve the same result would be to grant it to everyone and then have the part given in official currency added to individual's declaration of income (which would then be fully taken back for those earning more than a monthly €6,000).

Another proposal is the "Near-Universal Basic Income" or NUBI (Eyal, 2010), which is granted to everyone except the top 20% richest.[1] In the previously defined income tax system, this would mean, for example, that the three upper brackets (all incomes above €46,756) receive an autonomy allowance devoid of official currency, but only including local currency, emission permits, and free access to services. The amount of the part in official currency could also vary per bracket: high-option at €1000 for the first bracket, €750 for the second bracket, and €500 for the third.

It could also depend on footprint. In Bourg and Arnsperger's (2017) "green basic income" proposal, everyone receives the allowance but its amount varies based on their ecological footprint (e.g. set at zero for the ones with the highest footprint and at its highest for the ones at the other hand of the spectrum). While the proposal is attractive in theory, it is hardly operational. Income means-testing already being bureaucratic and intrusive, I cannot imagine its equivalent for a footprint-like indicator that, not only has to do with more personal choices of consumption, but that is also methodologically up for debate.

A compromise could be to adapt the Belgium *E-Portemonee* so that people get rewards in proportion to certain actions. In a similar logic, the base could be unconditional but the next level only available to those who perform certain tasks, perhaps having to do with social and ecological reproduction. This was already the logic behind Atkinson's (1996) "participation income." The difference here is that the tasks will perhaps be more narrowly defined and subject to variation depending on context. (In essence, a participation income becomes the same than the job guarantee proposal I will be detailing in Goal n°6.) Another option would be to set a single-event requirement, for example participating in a sort of civil service. This could be a locally-run, popular education initiative dedicated to certain information all citizens should have about the social-ecological state of the community they live in. It would last a few days and potentially be repeatable every year or so. Over time, this participation-bound portion of the overall allowance could become universal when such tasks have become habitual for most of the population.

Geography is another factor. Otto Andersson (2009) talks of a global basic income, van Parijs (2013: 175) considers a "EU-wide or Eurozone-wide basic income," most UBI proposals are at the national scale, and most UBI experiment happen within cities. The autonomy allowance envisioned here has a national span for that its base level is universally granted to all French citizens. And yet, the amount, form of the complementary currency, and the diversity of goods and services could vary depending on where recipients live. For example, regions with less offers in terms of social housing could benefit from a cash-equivalent; cities where the cost of living is higher could see their allowance adapt in proportion.

Ultimately, the setting of the amount of an autonomy allowance is a crucial democratic procedure to collectively determine what needs should be considered basic. If in the long-term, the level of the allowance should be sufficient to provide for a frugal lifestyle, it is in discussing

[1] A condition could be not to work above a certain threshold of hours per week, which would prevent the allowance of becoming a workaholism subsidy.

how high the level of this allowance should be that a community will come to decide what frugality concretely means. Then, one would need to discuss which need satisfiers should be organised collectively (so made gratuitous, e.g. local public transport or housing), which ones should be organised locally via the use of an alternative currency (e.g. food within a Community Supported Agriculture scheme, renewable electricity production), and which ones require to use national money (this part could then be calculated using methods similar to the one of the *Living Wage Foundation* in the UK).

(4) Addition or substitution?

Should the autonomy allowance come to replace existing transfers (unemployment benefits, family allowance, pensions, etc.)? From the perspective of degrowth, welfare should not be commoditised and organised as a market. Advocates of a UBI who argue that it should replace all existing transfers pursue a deconstruction of the welfare State in favour of a supposedly "free" market where individuals would be free to spend their monetary allowance as they wish. This is the "Uberised society" for which the basic income could be a "neoliberal Trojan horse" (Alaluf and Zamora, 2016, mt).

This would be the opposite of degrowth. An autonomy allowance should not lead to the privatisation and commodification of communal and public amenities but instead lead to a gradual reduction of the market domain. This means that an autonomy allowance is not a substitute to public and communal provision but a means to make it function. (This risk is avoided if part of the allowance is denominated in direct access to goods and services and in complementary currency.)

Which existing transfer can be removed then depends on what is included in the basket of goods, services, and amenities. For instance, the *housing allowance* and the *energy voucher* become unnecessary if most housing is social housing and if weekly energy entitlements are guaranteed. But the allowance for people in a situation of handicap or scholarship for students would still be necessary. (As for comparing monetary grants, the autonomy allowance should substitute only the welfare transfers that are today inferior to it.)

(5) As inheritance or income?

Either paid at once as a basic endowment or in the form of a regular payment paid throughout one's entire lifetime?

The one-time payment would be the equivalent of an inheritance granted at age 18, like in the "basic youth endowment" of Tobin (1968), the "stakeholder grant" of Ackerman and Alstott (1999), and the "democratic dowry" of Felber (2015: ch.4).[1] Roberts and Lawrence (2018) propose a one-off dividend of £10,000 to all UK-born 25-year-olds starting in 2031 financed by a "Citizen's Wealth fund." In a French context, Frémeaux (2019: 96-99) proposes to use the totality of the revenues of the inheritance tax to finance a "universal allowance" given once at age 18, which could have been of €15,600 in 2016. This is also one of the policies recommended by Piketty (2019: ch.17): the revenues of a tax on wealth and inheritance

[1] This happened in Hong-Kong in 2011 where the government exceptionally gave $6,000 (around €700) to all citizens above eighteen as redistribution of a public budget surplus. Another example was the Child Trust Fund (2003-2010) in the UK who, for the time of its duration granted £250 to each child born after 2002 on a specific account in the child's name.

representing 5% of national income in revenues would be given in one block as 60% of average wealth (the author takes €200,000 as an example) to each adult at age 25, then becoming a form of guaranteed minimum inheritance. In contrast, the regular (usually monthly) payment is the favoured choice of most universal basic income proposals.

After arguing that most of the allowance should take the form of gratuitous amenities and complementary currency, it can then only take the form of a regular income (for its monetary part) and a constant access (for the gratuitous goods and services part). Concretely, the emission permits are given weekly and the official plus the complementary currency part monthly. Besides, this regularity better fits with degrowth's right-based understanding of justice as a social guarantee for sufficiency throughout life, and not only an equality of opportunity at the start of life.

(6) Financed how?

Advocates of UBIs usually put forth several financing options: re-allocating existing transfers; taxes (income tax, personal-wealth tax, inheritance tax, VAT, carbon tax, tax on financial transactions, property tax, profit tax etc.); the selling of national assets[1]; and monetary creation. In this chapter, I am presenting the autonomy allowance as a redistributive mechanism and so it should be financed mainly by taxation of income and wealth.

The money is there, but currently untaxed. In 2016, the gross income of all French household totalled €1,377 billion euros for nearly 38 million households (Insee, 2018c). The revenues of the income tax for the same year were €76,554 million – so 5.5% of the total gross income (Legifiscal, 2017). If all revenues were redistributed as a basic income, this would only represent a monthly allowance of €95. To reach the high-option of €1,000 monthly, one would need to tax not 5.5% of the total gross revenue but 55% of it. This would be the source of funding for the official money part of the autonomy allowance.

Harribey (2016: 79) and Laurut (2019: 159) argue that the idea of a basic income is incompatible with the idea of degrowth because the government would need to increase its revenues to finance it. Most of public revenues deriving from market activities (VAT, income tax, and profit tax constitute together 90% of the French budget), this would mean striving for more economic growth. This would be true if the basic income is granted in national currency (and assuming no change in the monetary system). But in our case, this is not a problem because the portion given in official currency will shrink proportionally to the decrease in total gross disposable income (it follows the logic of de-commodification of State services described in Chapter 7: Unaffordable).

A portion of the services part of the autonomy allowance can be seized property from the wealth cap. In Richard's (2017) proposal, public authorities would end up owning 80% of the €440 billions of taxed real estate property, corresponding to 1.57 million dwellings. This could be added to the currently existing 4.8 million dwellings part of the French social housing (USPH, 2018), then providing shelter for an additional 3.2 million people. Same case for

[1] Financing it out of sales of natural resources (like the Alaska oil fun since 1982, around 1,800-2,200$ per year; or the Iranian $40 monthly cash benefits from oil revenues since 2010) is not an option for that it contradicts other degrowth goals; same non-option is Macao that has been financing an allowance since 2008 through a tax on gambling activities (fluctuating between €610 and €1,020 per year).

valuable possessions like art pieces which could be given to public museums to be enjoyed by all free of charge.

As for the rest, the autonomy allowance will play an important role in the new monetary system I will detail in Goal n°8. The monthly €60 billions of monetary emission during the Quantitative Easing (QE) conducted by the European Central Bank between January 2015 and March 2017 could have been used to grant a 175€ monthly allowance to all 340 million Eurozone citizens. (As for the American and British QE, it would have secured €161 and €180 per person per month.)[1] The entirety of the alternative currency part of the allowance will be financed via monetary creation.

(7) Timing

The autonomy allowance would best be introduced gradually. For example, Healy et al. (2013) designs a universal basic income transition for Ireland that starts with the 21-64 years old during the first year and then extend to other groups each year during a four-year period (children in year 2, older people in year 3, everybody in year 4).

In our case, it is possible to introduce the different elements of the autonomy allowance at difference time. Just to illustrate, let us take one possible design among many others. Phase 1: everybody receives the weekly emission permits. Phase 2: introduction of the variable grant in complementary currency. And phase 3: introduction of the cash grant in official currency (this is when the switch is made with other welfare transfers). The amount of emission permits is set following environmental targets but the rest can be adjusted based on the availability of public services, which might vary in time and space.

From a degrowth perspective, sharing possessions is associated to **4 objectives**:

- reducing income disparities;
- reducing wealth disparities;
- sharing objects; and
- ensuring universal provision so that everyone can satisfy their fundamental needs.

To achieve these objectives, I suggested **3 policy instruments**:

- a progressive tax on income with a 100% cap above €90,000 per year;
- a progressive tax on wealth with a 100% cap above €2 million;
- a universal autonomy allowance ranging from €500 to €1,000 per month granted in a mix of national currency, alternative currency, and free access to goods, services, and amenities.

[1] The American Quantitative Easing totalled $4.2 trillion between 2008 and 2014 and the British one £375 over the 2009-2012 period (Mazzucato, 2018: 120).

Goal 2: Democratic ownership of business

How to organise production in a degrowth society? It would be naïve to think of degrowth as a society where production happens on its own; a pure realm of home-made and do-it-yourself production, with independent artisans prosuming away their rare needs for manufactured objects by 3-D printing Wiki-howed blueprints at the local fab lab. Instead, just as today, a large portion of productive activities is likely be socially organised in *businesses*, that is associations of people working in cooperation to produce goods and services.

In the degrowth literature, businesses are often demonised as the agents of productivism and nothing is expected of them except a loyal defence of the status quo. For instance, Solé (2015: 136, mt) argues that "degrowth and the firm are fundamentally incompatible" because firms manufacture needs and wants, drive economic growth, and are anti-democratic. Same stance for Abraham (2019: ch.5) whose leverage point for degrowth is to "abolish the firm."

But this is too fast a statement. Looking at the business landscape in France, only 6,092 of the 4 million existing firms (0.15%) have more than 250 employees, and only 292 of them (0.007%) fit the description of the large, transnational corporation accused of all wrongs by degrowthers. Businesses can take several legal forms, with some actually close to degrowth ideals (e.g. *associations* or the *Collective Interest Cooperative Companies* model that will be discussed at greater length later in this chapter). What makes a business compatible or incompatible with degrowth is the institutional form it takes.

The ideal-typical firm of a growth-seeking economy is the for-profit, shareholder-directed and publicly traded, private, as well as often large and transnational corporation. As I have showed in Chapter 1, the profit motive is a key driving force behind economic growth. The shareholder model is problematic when only a small portion of the population owns shares. For example, in France, the 1% richest households own 64% of financial wealth, including stocks and shares (Richard, 2017: 155). Not only can these few individuals appropriate the wealth created in production, but it is also them who then have the final say in how businesses should operate. The private status reinforces this lack of democratic governance by insulating businesses from public sight and supervision. As for the size and geographical reach of certain firms, which can be seen as a consequence of their pursuit of profits (Penrose, 1959), it has been a driving factor in globalisation and all its negative consequences.

While it is generally agreed that today's dominant business model is problematic, there is little consensus over what alternative model should replace it. Reichel and Seeberg (2011) calculate a CO_2 "ecological allowance" for firms to achieve "corporate degrowth." Cato (2014a: 68) calls for "Ecological Enterprises Zones" but does not detail what kind of businesses would compose them.

Heidi et al. (2017) interview business owner-managers about their attitudes toward growth and argue that the growth imperative experienced in private businesses is a structural outcome that is not always present and not inevitable. In line with that finding, Liesen et al. (2015) point to cases of successful non-growing companies in Germany. Gabriel et al. (2019) study thirty "growth-averse enterprises" in more than twenty countries in the global South, which they use to derive a list of fourteen performance indicators that could frame business in a post-growth society. Schmid (2018) examines fourteen organisations in Stuttgart (Germany)

that he uses to define a "post-growth organisation" as "organisational associations that address social and environmental concerns and simultaneously engage in post-growth politics."[1]

Johanisova et al. (2013) make a case for community ownership of businesses, arguing that what they call "social enterprises" should de-prioritise profits and aim at benefiting the community. Johanisova and Wolf (2012: 565) argue that the co-operative enterprise model suits degrowth because of the stability of its shares (i.e. with shared redeemed at their original value, regardless of the performance of the co-op), its democratic governance, and the choice is can make to shun financial gains. The chapter on "co-operatives" (Johanisova et al., 2015) is actually the only business-related entry in *Degrowth: A Vocabulary for a New Era*.

Bocken and Short (2016) describe a "sufficiency-driven business model" where firms actively moderate demand through consumer engagement, education, durability of products, and funding structure less reliant on profits. As a case-study, they look at UK-based mobility services company *Riversimple*,[2] which they argue is a good example of how to reduce resource use while generating revenues. Wells (2018) looks again at *Riversimple* as an example of a business model fit for degrowth.

In the same spirit than Wells' (2013) six principles, Khmara and Kronenberg (2017) propose seven criteria[3] to evaluate the degrowth-ness of a firm, which they apply to *Patagonia* as a case study.[4] Hankammer and Kleer (2017) discuss "collaborative value creation" with participation from consumers during the product lifecycle, for example via mass customization, crowdfunding, and crowdsourcing.

Judging by the thickness of this last paragraph of literature review, it might seem that the business question is already sorted, but it is not. In my reading, none of these texts contain a clear and precise answer as to which business model fits the idea of degrowth. Only a few authors start from what I would consider an accurate definition of degrowth (i.e. more than just savings in resources or a shrink in size), and even them leave undiscussed the crucial question of the profit motive. Hence the purpose of this section: to operationalise degrowth at the level of the firm. For that, I make three points: from the perspective of degrowth, firms should be (1) not-for-profit, (2) small enough to be democratically managed, (3) and collectively owned as cooperatives. For short, I will refer to such businesses as social enterprises, even though I am aware that the term is used in different manner in the literature, some more in line with degrowth than others – e.g. the "eco-social enterprises" of Johanisova and Frañková (2017).[5]

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[1] With "post-growth politics" defined as "the practice of changing the rules of practice to support parallel and mutually enforcing processes of cultural and institutional change within the diverse meanings of post-growth" (Schmid, 2018: 291).

[2] Riversimple is a 20-employee firm that sells electric car-based mobility services in Wales. The technology it develops is open-source and the firm is collectively managed by six "custodians" representing different stakeholders (environment, users, staff, neighbours, investors, and partners). Its business model aims at reducing the number of vehicles used for a given quantity of mobility by taking a servitisation approach while still generating a profit to be fairly shared among all custodians.

[3] The seven principles of a degrowth business for Khmara and Kronenberg (2017): "(1) Alternative understanding of business, (2) from business activity to activism, (3) collaborative value creation, (4) democratic governance, (5) corporate leaders' commitment to company values in personal life, (6) reduction of environmental impacts at all stages of product/service life-cycle, and (7) making products that last and are repairable." The six principles of Wells (2013) are "resource efficiency, social relevance, localization and engagement, longevity, ethical sourcing, and work enrichment."

[4] Khmara and Kronenberg (2017) conclude that, even though it fulfils some of the criteria, Patagonia is still in contradiction with degrowth because of its reliance on persuasive marketing and the steady increase of its sales.

[5] Johanisova et al. (2013: 11) describe social enterprises as "organisations involved at least to some extent in the market, with a clear social, cultural and/or environmental purpose, rooted in and serving primarily the local community and ideally having a local and/or democratic ownership structure."

The order of presentation is not random for there is a hierarchy in between the three features. The profit motive matters most because it is ultimately what drives businesses to exploit either people or nature. Even a small, local, cooperatively owned firm, self-directed by its workers can fall back into a business-as-usual economic banality of evil if it structures its activity around the maximisation of financial gains. Of course, these aspects are self-reinforcing. A not-for-profit firm will be less pressured to expand in scale than a profit-seeking firm; and it will be easier for a local business to define a precise mission of social benefit than it is for a transnational corporation. But to understand how these three features interact, let us start by discussing what each of them entails.

De-privatising profits

Who should own the surplus of production? My claim in this part is that a pivotal transformation of private enterprises has to do with the ownership of their profits. More precisely, I am talking about a specific right in the bundle associated with business ownership: financial rights. Financial rights are also called *appropriation rights* or *rights to profit* (Palmiter, 2003) because they grant owners of equity the right to claim the net income generated with the use of the means of production as well as the right to take assets out of the company.

Today, and following Milton Friedman's (1970) insight that "the social responsibility of business is to increase its profits," most firms strive to maximise financial returns. (Here I understand profit in an accounting sense, namely the remaining financial surplus after all expenses have been paid, that is the *net income* of a business.) Most of this profit is distributed to shareholders – e.g. two thirds of the 93 billion euros of profit made by CAC 40 firms in 2017 went to shareholders (Oxfam France, 2017). Profit-seeking is an attitude towards production where expenses are minimised and revenues maximised, and where the success of a business is judged on its net income and how fast that income can grow. Organised as a system, it leads to a natural selection logic that advantages the most profitable businesses.

The primacy of financial returns over other objectives is often stated in law (e.g. the *fiduciary duties* in American law), even though that is not the case in France. Indeed, the Article 1833 of the *Code Civil* states that "every company must have a licit purpose and be established in the common interests of its associates" (mt). It was only in 2019 (n°2019-486) that this article was modified, with a further specification that a firm should "take into consideration the social and environmental impacts of its activity" (mt).[1] This reflects the recent rise in popularity of the "triple bottom line" approach where business should strive towards profit, people, and planet (Elkington, 1997). In legal terms, there is thus nothing preventing a firm from improving the social and environmental sustainability of its activity, even though it would negatively impact its financial margin.

Profit-driven businesses are problematic for a number of reasons, starting with the fact that they drive up sales (their revenues) while pushing down social and ecological standards (their costs). But let us avoid any misunderstanding: the problem is less profit in itself than it is the *profit motive*. Profits can exist and they are a constitutive part of what makes market competition an efficient mechanism of allocation. But they should be a means and not an end;

[1] Here is the full sentence: "The company is managed in its social purpose, taking into consideration the social and environmental impacts of its activity."

otherwise, market competition turns into a generalised quest for moneymaking. Maximising net income is a narrow, economistic purpose; it is as reductive as the pursuit of GDP for governments and income for individuals. This narrow focus can result in situations of "profit without prosperity" (Lazonick, 2014) where private firms strive at the expense of all the social and ecological stakeholders that were not taken into consideration in their business plan.

There is no reason to reduce the purpose of a firm to profit. Profit-making is only one social purpose out of an infinity of possible others. Hinton and Maclurcan (2017) sketches out a "not-for-profit" model where each firm is created with a clear and irrevocable social benefit mission and must organise all its activity around it (including the use of its profits).[1] The not-for-profit argument aims at breaking the hegemony of moneymaking to allow a diversity of businesses with different social and ecological missions – Kostakis and Bauwens (2014) talk of "for-benefit business."[2] Unlike nonprofit organisations relying on donations, a not-for-profit business generates its own revenue by selling goods and services. But unlike for-profit businesses, selling products is only be a means to an end (the social mission in the statute of the company). This makes *not-for-profit* a criterion that can – and as I am arguing here, should – apply to all businesses, from small family-owned enterprises and cooperatives to large publicly-owned corporations.

In France, the *Pacte law* (n°2019-486) offers the option for companies to have a "*raison d'être*" attached to a social-ecological mission written in their statute (similar to the American "benefit corporation" model since 2010). Of course, a stated mission is only the beginning and one must ensure that the mission is stated in precise terms[3] and that it is acted upon. In their manifesto for a "living power," the French trade union CFDT (2019: proposition n°64) proposes to render this mission statement compulsory. This is already the case for Solidary Businesses of Social Utility (the ESUS status of the Social and Solidary Economy law of 2014) which must have as main objective the pursuit of social utility,[4] with this objective explicitly written in the firm's statute.

One could imagine a rewriting of Article 1833 in the like of: "*Every company must have a licit social or/and ecological purpose, be created and managed in the plural interest of stakeholders, and contribute to the common good*."[5] There is also the opening article of the French Law on Social and Solidary Economy (n°2014-856) which states that the social and solidary economy's first condition is that "the goal pursued should be something else than the sole sharing of profits."

The not-for-profit model is different from hybrids forms of for-profit companies. For example, the "tri-profit" that accounts both harms and benefits relating to a firm's activity (Upward and Jones, 2016), the "profit-locked" or "profit-with-purpose" models where

[1] One should remember that it was the traditional way of starting a business in 19th century France, where each corporation required a governmental decree, obtainable only by demonstrating that the activities would benefit the common good.
[2] For example, Becker and Kunze (2014) propose the concept of "collective and politically motivated renewable energy project" to describe the initiatives who have political aspirations that goes beyond the mere generation of energy – reducing energy consumption, protecting biodiversity, or empowering disadvantaged social groups (see also Kunze and Becker, 2015).
[3] Clerc (2019) reports on the vagueness of the missions published by companies that acted voluntarily on this law. The mission of the bank *Crédit Agricole*, for example, is to "act every day in the interest of our customers and society."
[4] The Article 2 of the same law details what is to be considered socially useful (*utilité sociale*): activities that (a) help the worst-off, (b) reduce inequality and improve social cohesion, and (c) contribute to sustainable development.
[5] I have here adapted the sentence that Segrestin et al. (2015: 19, mt) have proposed in replacement of the existing article. Their version was: "Every company must have a licit purpose, be created and managed in the plural interest of stakeholders, and contribute to the common good, economically, environmentally, and socially."

companies pledge to use part of their net income for social-ecological projects, or the "*société à objet social étendu*" (company with an extended social object, mt)[1] of Segrestin et al. (2015), who build on the American "mission-driven companie*s*."[2] But here is the crucial difference: the not-for-profit model of Hinton and Maclurcan (2019) includes a legal reframing of the sharing of financial surplus, with no possibility to distribute money to private individuals – this being known as a "non-distribution constraint" (ICNL, 2013). The not-for-profit company resembles the French legal status of *association*, a group of people coming together for a common purpose that is not to make a monetary profit. This means anything, including the making of profits, should not detract from the social-ecological mission.

This requirement has radical implications. If one accepts the postulate that all businesses should be mission-driven, then the ones that cannot stand by a legitimate social-ecological mission should gradually close down. Instead of granting presumption of innocence to all businesses, the logic would be reverse: to exist, a business would need to have a purpose that resonates with the needs of a specific community and a mode of production that is not socially and/or ecologically harmful (one could imagine in each territory, regular citizen audits of company's missions).

Cooperatives

Many companies today belong to their shareholders. The shareholder model is problematic when shareholders are solely concerned by the ability of the firm to generate financial returns, even though it is at the expense of people, planet, or even the firm's sustainability over the long term. Hence the claim that I will be defending here: in terms of ownership, most companies should be cooperatives.[3]

In 1995, the *International Co-operative Alliance* defined a co-operative as an "autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise" (Coop, 2016: 2). In short, a co-operative is an organisation owned and democratically run by its participants.

Cooperatives can be of three types. (1) Producer or worker co-ops organise around a process of production, e.g. the French magazine *Alternatives Économiques*; (2) consumer or retail co-ops organise around an act of consumption, e.g. the *Coop Altantique* and its 220 supermarkets all over France; and (3) credit co-ops that self-organise loans, e.g. the *JAK Members Bank* in Sweden. Regardless of the type of goods and services they provide, the cooperative model shares the six values of self-help, self-responsibility, democracy, equality, equity, and solidarity (Coop, 2016). Put into practice, these values translate into seven principles, which the *International Cooperative Alliance* defines as such:

[1] The "extended social object" implies that a firm's activity should benefit not only its employees, supplies, and customers, but also its broader community, including the environment.

[2] Also called "profit-with-purpose-companies," this status originates from the British *Company Act* of 2006 that required private firms to take into account the long term interest of its different stakeholders. It now takes a variety of forms in different countries: *Société à Finalité Sociale* (Switzerland), Community Interest Company (UK), *Société Coopérative d'Intérêt Collectif* (France), Benefit Corporation or Flexible Purpose Corporation (USA). For more about mission-driven companies, see Levillain (2015).

[3] I say "most" because the cooperative model is not suited to all forms of production, especially not industrial ones with high capital intensity (Lawrence et al., 2018: 13). These are typically the types of industries that should shrink. The rule of thumb should be: if it cannot be socialised into a co-operative, then it should be nationalised.

1. *voluntary and open ownership*: no discrimination
2. *democratic member control*: controlled by members
3. *member economic participation*: members contribute to cooperative wealth
4. *autonomy and independence*: from other organisations including government
5. *education, training, and information*: to improve and promote the cooperative model
6. *cooperation among cooperatives*: cohesion within the cooperative movement
7. *concern for the community*: work for the sustainable development of their communities

These fit perfectly with the moral principles I have ascribed to degrowth: a cooperative as an autonomous and convivial entity, working carefully and being grounded in a community.

The cooperative is not a new ownership model and has been tried and tested for almost two centuries with solid results of performance, perhaps most famously in the case of Mondragon since 1956 (for more, see Heales et al., 2017). Research on cooperatives is abundant. Showing that their productivity is higher than their non-cooperative competition (Fakhfakh et al., 2012), more likely to avoid bankruptcy during their first three years of operation (Welsh Co-operative and Mutuals Commission, 2016). In France, the cooperative sector is four times more labour intensive in terms of jobs per turnover than the 292 largest French corporation.[1]

At the end of 2018, there were 3,311 cooperatives in France (Les Scops, 2018), which represent 0.08% of all the 4 million companies in the country (Insee, 2018d: 66). While this is small, cooperatives are already more common than companies listed on the stock market – only 457 French firms in 2018 (World Bank, 2019). In fact, Hunt and Willets (2017) estimate that European citizens is twice as likely to be a member of a cooperative (20% of EU citizens) than they are to hold shares in a listed company (11% of EU citizens). Even though in terms of turnover "co-operatives are democratic fish swimming in a capitalist, acquisitive sea" (Lawrence et al., 2018: 28). The 3,311 French cooperatives totalled €5.5 million in turnover in 2018, more than 200,000 times less than the turnover of the 40 firms listed on the French CAC 40 during the same year – 1,136 billion euros (Rolland, 2019).

In theory, any business can be turned into a co-operative. One option is to set up an "inclusive ownership funds" (Gowan and Lawrence, 2019; Lawrence et al., 2018) whereby large, privately-owned businesses gradually dilute the power of external shareholders by issuing new shares into a collectively held fund with democratically elected trustees that partake in the firm's governance.[2] Members would hold shares of only part of the business' capital, with the other part placed in the fund and owned in the name of the cooperative in a way that is not claimable by individual members. Effectively, it turns employees into shareholders, except they cannot either purchase or resell the shares and these remain in the trust when they transition to another job (this is called an *asset-lock*). Not only will these funds enable a fairer

[1] In 2017, there was 3,311 French cooperatives totalling 60,400 jobs and 5.5 billion euros of yearly turnover (les Scops, 2018). In comparison, the 292 largest French firms employed 3.9 million people for a turnover of €1,385 billion in 2018 (Insee, 2018d).

[2] This proposal can also be traced back to the *Meidner Plan* in 1970s Sweden which recommended that 20% of pre-tax, yearly profits in all firms with more than 50 workers be placed in wealth funds controlled by unions. Today, it is actively promoted by the UK minority Labour Party, who proposed in September 2018 a policy requiring all firms with more than 250 employees to place 1% of all company stock into an inclusive ownership fund every year for ten years, as to grant workers a 10% control of the company.

distribution of profits between shareholders and managers, and workers (only applicable in for-profit firms), but they will also democratise investment decisions.[1] (Worker-owned wealth funds can be set up at the sectoral level or at the firm-level.)[2]

Another option is to nationalise a private firm and entrust its shares to its workers. This becomes an appealing option if a large part of privately own company's shares is seized via wealth taxation. A portion can be redistributed to workers (like in a *Participatory and Cooperative Company*, SCOP) and the rest granted to other stakeholders in the community where the business operates like customers, environmental agency, and municipalities (like in a *Collective Interest Cooperative Company*, SCIC). This would constitute a decentralisation of ownership at the local level.

Small companies

In a degrowth economy, all businesses should be *small*: small in power, small in employee size, and small in geographical scale. To be more precise, one should say small *enough* for that it is not an issue of absolute size but one of proportion between the scale of a business and everything else around it. Altogether, it means that powerful, large, transnational corporations should be broken down into smaller entities.[3]

Small in power

Small in power means preventing private firms from achieving a situation of monopoly that would grant them too-big-too-fail privileges. I will neither surprise nor offend anybody if I state that private monopolies are problematic and should be broken down. This means that the State should actively intervene to avoid mergers with a tightening of legislation as to avoid the formation of conglomerates, and even sometime provoke splits (i.e. separation of one corporation into smaller companies), especially in strategic sectors such as banking, food, communication, and pharmacy.

To give just one example of such market concentration, four corporations (Archer Daniels Midland, Bunge, Cargill, and Louis Dreyfus) control 90% of the global grain trade (Murphy et al., 2012). Similar situation for key commodities such as seeds (three firms control 60% of the market), palm oil (five firms control 90% of the market), pesticides (4 firms control 84% of the market), oil (10 firms control 72% of the market), and other key natural resources such as metals, cement, and living biomass (Folke et al., 2019).

From a degrowth perspective, what is desired is not the so-called "perfect competition" that would ensure equilibrium in the market for the sake of optimal efficiency. It is rather a democratic concern: there should be forces and counter-forces of equal strength as to ensure that certain businesses do not become a source of domination (heteronomy) for others and

[1] It should be noted that this worker-fund approach is often understood as a way to slowly regain control over strategic sectors such as banking, finance, pharmaceutical, or energy industries. As I have been arguing else in the monograph, a case can be made to directly nationalise these sectors, without relying on a slow – and uncertain – takeover with ownership funds. (These two different strategies are not necessarily incompatible.)

[2] How much money would that be? Palladino (2019) estimates that for the 1,345 US corporations with publicly traded shared and annual revenues over $1 billion and over 1,000 employees, granting 10% of 2018 dividends to workers results in an average yearly $2,725 per employee (e.g. $10,405 for an employee at Apple, $400 for one at Walmart).

[3] What should shrink is the average size of a company. This requires the breaking down of large businesses but does not prevent smaller firms from becoming larger (in terms of employees, geographical scale, and turnover, but not in profits).

society as a whole. If money is power, it also means that abnormally high turnovers are a problem for that they give disproportionate power to a single company and its owners.

For example, InfluenceMap (2019) calculated that the five largest fossil energy firms (BP, Shell, ExxonMobil, Chevron, and Total) spend a total of $200 million each year lobbying against environmental regulations. One could also point to various cases of corporate efforts to disseminate false information to the public as to "create doubt" about the safety or legitimacy of their product, for example by the tobacco industry (Oreskes and Conway, 2011). Consider also the amount of money spent by transational corporation in investment arbitration cases – an average legal cost of US$8 per case –, a practice that has been rising in frequency in recent years – from 38 cases in 1996 to 450 in 2011 (TNI, 2012).

While legislation to prevent mergers already exists and is often used by governments, the separation of large corporations is trickier. After the Global Financial Crisis, discussions arose about the necessity to split "too-big-too-fail" banks. Companies sometimes do it on their own accord as to avoid the inefficiency resulting from large bureaucratic structure and promote innovation (for example, eBay and PayPal split in 2015, and the conglomerate Philip Morris was broken down into Kraft, Mondelez, Philip Morris International, and Altria between 2002 and 2012).[1] My hypothesis is that corporate splits could be beneficial both for the business in terms of innovation and for society as a whole (even though firms would necessarily lose power and, with it, a large part of their profit margins). Of course, a split should happen both at the management and ownership level, avoiding conglomerate to just split up the firms they own – and ultimately control – into smaller units.

Large banks would be eligible for such division. In the United States, Senator Bernie Sanders introduced a bill in 2018 that would limit the size of a bank to 3% of national GDP (around €584 billion), which means that the six largest American banks (Citigroup, JPMorgan Chase, Goldman Sachs, Bank of America, Wells Fargo, and Morgan Stanley) would need to be split up (Lane, 2018). The largest French firm in terms of turnover is PSA Automobile with annual revenues of 57 billion euros (Insee, 2018d). With an average turnover of €276,000 per Collective Interest Cooperative Company in France (les scic, 2012), this would mean the revenues of PSA automobile are equivalent to more than 200,000 small cooperatives.

Small in size

Small in size means limiting the maximum number of employees as to allow the possibility for democratic, one-person-one-vote, self-management. If it is deemed important that workers should be able to self-organise, then it necessarily follows that the number of employees within one company must be limited. Self-direction does not mean direct democracy applied to every single decision. What it means is that it is ultimately the workers who decide of the type of management that is most adapted to their line of business and that it is ultimately them who have the final word in terms of governance.

In 2016, there was 4 million businesses in France (Insee, 2018d), 96% of them being microbusinesses with less than 10 employees and under €2 millions of yearly turnover. In the remaining 4%, there were 292 large companies (> 5,000 staff and > €1.5 billion turnover), 5,800

[1] Another historical example is Cuba in the early 1990s with the splitting of State farms into cooperatives one tenth of their size (for more see Boillat et al., 2012: 604).

intermediary companies (between 250-5000 staff and between €50m-1.5b turnover) and 135,000 small and medium companies (< 250 staff and < €50 million turnover). If the upper limit in terms of staff is placed at 250,[1] this means that 6,050 firms would be up for division (0.15% of all firms). In 2016, large and intermediary companies employed 54% of the entire working population, representing a total of 6.5 million people (Insee, 2018d). The re-organisation of all these firms into smaller unit with 250 employees would require the creation of 26,000 new companies. While this number seem large in absolute terms, it would represent only 0.65% of all existing enterprises.

Small in scale

Small in scale means constraining the geographical span of firms as to ensure they remain in harmony with their surrounding cultural and ecological environment. This is the firm-level strategy for the economic relocalisation that is dear to degrowth. A company must be embedded in a specific community as to be able to invite specific stakeholders into management (Freeman, 1984). With large companies come the possibility of structural exploitation, the economic banality of evil that can happen with long chains of command that span over several social-ecological contexts. In contrast, and this is here my contention, smaller workplaces facilitate participatory, face-to-face decision making and are thus more conducive to a logic of care.

Whereas it is difficult for multi-activity transnational corporations to define a single purpose of existence (beside the making of profit), local businesses can have concrete social or/and ecological missions. And a concrete mission requires concrete stakeholders. The Collective Interest Cooperative Company (SCIC) model I will describe in the next section allows cooperatives to include a diversity of stakeholders in their governance, for example municipality, residents, customers, or local environmental groups. Perhaps it is a good rule of thumb that a business has grown too big if it becomes difficult to identify and gather all the stakeholders affected by its activity.[2]

Policy instruments for distribution: Collective interest cooperative company

The second goal of my degrowth agenda is the generalisation of a business model consisting of three main features: not-for-profit, small, and cooperative ownership. In France, the status that looks closer to that ideal is the *Société Coopérative d'Intérêt Collectif* or SCIC (collective interest cooperative company).[3]

The main agents of implementation for this policy are businesses themselves. While it is legally possible for for-profit, large, shareholder firms to turn themselves into SCICs, it would be unrealistic to expect this to happen. In fact, because the SCIC status was created by law in 2001 (n°2001-624), if it were to happen on its own, it would have probably already happened. The fact that there are only 692 SCICs out of the 4 million firms in France is perhaps the evidence that other incentives are needed. The ones I will focus on in this bundle are of three

[1] This is a random number. I am not aware of anyone in the degrowth literature offering specific numbers on how large companies should be – except Latouche (2006: 266) who says between 300 and 500 but without giving much justifications.
[2] Again, most companies already are. In 2015, it was only 2% of all existing French firms that are owned by a transnational corporation, even though it represents half of all employment and added value (Insee, 2018d: 94).
[3] The model is similar to the British Community Interest Company (since 2004) and the *Coopératives de Solidarité* in Quebec (since 1997).

kinds: profit tax and its exemptions, the organisation of public procurement, and a more radical strategy to split large firms into smaller entities.

(1) What kinds of business models?

The *Société Coopérative d'Intérêt Collectif* (collective interest cooperative company, and hereafter SCIC) has several characteristic features: it is a cooperative with a mission of social interest, which limits the distribution of its profit, include a diversity of stakeholders and its governance, and is externally audited on a regular basis.

A SCIC runs as a cooperative with one-person-one-vote system of governance via general assembly. Its purpose is to produce goods and services that contribute to the achievement of a mission of social utility – that mission being explicitly written in the statute of the company. It is composed of a "multi-societariat" (Manifeste des Scic, 2015, mt) including at least three different types of stakeholders: workers, beneficiaries (e.g. customers, residents, volunteers, think-tank), and a third type that is different from the first two (e.g. public authorities, funders, associations, private business). At least half of its profit must be re-invested in the company, which then becomes reserves that cannot be appropriated by private parties (asset locked). The larger portion of the remaining profit is distributed to the stakeholders, and the rest (usually around 10%) is given as dividends to investors.[1] A SCIC is audited externally every 5 years to evaluate the coherence of the firm's functioning with its stated mission and the general guidelines of SCIC organisation.[2]

How does the SCIC model fits with degrowth? The focus on the mission corresponds to the principle of *socially useful production* from Chapter 6. For example, the mission of the SCIC *France Barter* is to facilitate the exchange of goods and services between the businesses part of its network; *ERE 43* strives to find uses for the pieces of woods left rotting in the forest; *Rhizobiòme* promotes awareness about the conservation of regional wetlands by organising excursions.[3] The SCIC model describes itself as a means to "take back the economy" (Gibson-Graham et al., 2013): The purpose of SCIC is "to adapt the organisation of production to real needs, to mobilise local skills, and for all involve stakeholder to regain control over the economy" (Manifeste des Scic, 2015, mt). The threshold of re-investment can be pushed as high as 100% if agreed in general assembly, which means a SCIC could fit the not-for-profit criteria of Hinton and Maclurcan (2017).

As for the cooperative aspect, its multi-stakeholdership gives it flexibility and breaks down the public/private dichotomy as to allow active collaboration with both on equal terms. The average number of associates or stakeholders per SCIC is 93 with more than half of all SCICs only having between 10 and 49 stakeholders (les scic, 2012). SCICs being audited externally forces transparency and, ultimately, democratic control over businesses.

In terms of size, SCICs are usually small: more than three quarters of them have less than 10 employees and only eight have more than 50, bringing the median number of employees to 3 (ibid. 5). In average, they each weight €140,000 in capital, with €300,000 in reserves. Their

[1] If not pushed to 100%, the interest on social shares to be distributed to shareholders is capped at the average rate of return of social shares during the three previous years (e.g. 1.81% in 2016, 1.08% in 2015, 1.89% in 2014).
[2] The frequency of audits is higher if the SCIC is in deficit (it shall then be audited after 3 year), or if it produces a surplus of more than €30,000 per year two years in a row.
[3] In 2012, around one fourth of the 266 SCICs had an environmental mission (les scic, 2012: 2).

average turnover is €276,000 with 40% of them under €200,000 and 30% above €500,000 (ibid.).

Of all business models existing in France, the Collective Interest Cooperative Company (SCIC) seems the most adapted to the three degrowth criteria for business I have set earlier (not-for-profit, structured as a cooperative, and small).

(2) How to support them?

This shift of business model could be supported in many ways. Consumers could boycott certain companies and support others via crowdfunding; job-seekers could favour the companies with these specific features; entrepreneurship could be redirected towards creating such businesses; the State could give them priority in public contracts bidding; existing social enterprises could collaborate in priority with other social enterprises. Here I will mostly focus on three public instruments: fiscality, public procurement, and a nationalisation-to-socialisation scheme.

Fiscal rates

The "*impôt sur les bénéfices*" (profit tax) applies to all businesses with activities occurring on the French territory. This is basically an income tax except for companies and not individuals. In 2019, the rate is set at 28% on yearly profits under 500,000€ and 31% on the ones above.[1] In the current French system, small and medium companies with profits under 38,120€ benefit from a reduced profit tax set at 15%. In addition to these taxes come the "*contribution sociale*" (social contribution), a tax of 3% of the profit tax levied on companies whose profit tax exceeds 763,000€. And the "*contribution exceptionnelle*" (exceptional contribution) set at 15% of the profit tax for firms with a turnover over 1 billion euros and an additional 15% for the ones with a turnover exceeding 3 billion euros.[2]

With these three taxes, all the instruments necessary for a more progressive taxation of profits is already in place. What is left to be done is to create additional brackets just like I have done earlier for income and wealth taxation.

A first step would be to make sure that all firms do pay their taxes. This is today far from being the case: Zucman (2017) estimates that 40% of corporations' profit is left untaxed in tax heavens; for Cobham and Jansky (2017), it is 500 billions in total, which is 25% of total profits. Difficult not to talk about the taxation of GAFA and other digital companies, which currently pay little taxes – e.g. Apple pays 0.005% on its profits (Artus and Virard, 2017: 32).[3]

Cooperatives, not-for-profit firms, and other alternative business models could benefit from an either null or reduced profit tax. This is already the case to some extent. SCIC are exempted from profit tax (*impôt sur les sociétés*) only on that part of the profit that is re-invested in the firm. (If the part is 100%, it means the SCIC would be fully exempted from the tax.) They

[1] The Macron government has announced it will lower the upper threshold down to 28% in 2020, both thresholds to 26,5% in 2021, and finally to 25% in 2022 (the reduced rate of 15% will stay the same).

[2] To compare, the 40 firms of the CAC 40 totalled 87 billion euros of profit in 2018: e.g. *Total* earned €9.7 billion in profit when it was €7.5 billion for *BNP Paribas*, €6.4 billion for *LVMH* and €4.4 billion for both *Crédit Agricole* and *ArcelorMittal* (Le Point, 2019).

[3] In current negotiation among the OECD, a proposal is to tax activities based, not where the companies is located, but based on the location of consumption. In waiting for a European agreement, France and Germany have agreed to levy a 3% tax on advertisement revenues starting January 2021.

are also exempted from the local territorial economic contributions (*contribution économiques territorial*, CET).

SCICs can apply for a specific label, the *Entreprise Solidaire d'Utilité Sociale* or ESUS (*solidary company of social utility*, mt), which grants them several advantages. While being certified ESUS, a business can receive partly-funded employees (*contrats aidés*) and can access funding through the Public Investment Bank (*Banque Publique d'Investissement*), social innovation funds (*fonds d'innovation sociale*), and solidary employee savings schemes (*fonds d'épargne salariale solidaire*). People investing in a Solidary Company of Social Utility (ESUS) also benefit from tax credits (18% of income tax or 50% on the personal wealth tax).

Targeted public procurement

One way of supporting the establishment of alternative business models would be to give them an advantage in public procurement. **Public procurement** (or public purchase) are the purchases of goods and services produced by private firms contracted by public organisation (e.g. a municipality, a public hospital, or a university). In France, these public procurements are regulated by three overarching principles: freedom of access, non-discrimination, and transparency. Here, the principle of non-discrimination should be removed as to be able to give an advantage to, for example here, SCICs when they partake in the bidding. (As long as transparency remains, I do not see any reasons why new criteria beyond financial costs should not apply to competitive bidding.) This is already the case since 2001 (law n°2001-210) where three forms of businesses (SCOP, agricultural producers group, artisans and artisan cooperatives, and artist cooperatives) are given priorities for public procurement.

The Law on Energy Transition (n°2015-992) includes a commitment to use public procurement as a strategic tool to "green markets." The measure is limited as it only concerns energy, housing, and recycling, and only applies to contracts exceeding 100 million euros. The objective of the French government here is not ambitious enough: by 2020, they expect 15% of these contracts to have at least one social objective (it was 4% in 2017) and 30% of them to have at least one environmental objective (it was 9.3% in 2017). Using the same mechanisms, one could bring these rates to higher levels or even expect that it should be compulsory for certain services (for example linked to food and energy) to have social-environmental criteria to be eligible for public procurement. This would be a way of encouraging businesses to embrace not-for-profit, mission-oriented structures.

Nationalisation-to-socialisation

Just like certain public utilities are sometime sold to private individuals, the reverse process is also possible. In the €2 million maximum wealth proposal of Richard (2017: 161-62), public authorities would end up owning the majority of company shares – based on his estimation, 77% of all shares of PMEs, and 99% of all shares in ETIs and GEs. This would only concern 4% of all existing businesses for that the value of microbusinesses (96% of all businesses) would remain under the wealth cap. Richard's (2017) proposal is ambitious but there is no need to agree on numbers here, simply to recognise that if a cap is put on wealth, and if some of that wealth is being held in the form of companies' share, then public authorities would end up the

owner of the collected shares. The question would then be: What is to be done with these ownership of business?

The answer I will defend here is straightforward: transfer that property to the employees of SCOPs and the stakeholders of SCICs (for the latter, the municipality can retain ownership over the company's share by becoming a stakeholder of the SCIC). This is a concrete example of the role of the State for a degrowth transition that underlies Part III: use its power of redistribution to decentralise ownership and governance (here at the firm level).

From a degrowth perspective, social enterprises are associated to **3 objectives**:

- deprioritising the pursuit of profits;
- redistributing the ownership and governance of companies; and
- ensuring businesses remain small in power, size, and scale.

In order to satisfy these objectives, I have suggested

- to increase taxation on profits and grant tax credits to social enterprises;
- be more selective in public procurement;
- and redistribute business ownership through a nationalisation-to-socialisation scheme.

Goal 3: Stewardship of nature

It is common to talk about *redistributive policies*, less common to discuss *distributive policies*, and quite rare for anyone to mention *predistributive* policies.[1] It is here that the analytical power of degrowth is fully realised as it enables to address economic inequality at its roots: the initial allocation of property rights regarding certain assets such as land, natural resources, or knowledge. Rather than redistributing benefits and burdens resulting from past production (that is, redistribution), or ensuring that they are fairly distributed in ongoing production (distribution), it would be even more effective to act upstream on the preconditions for wealth creation. Like the "precrime" unit in the film *Minority Report* (2002), predistributive policies prevent inequalities to be brought into existence.[2]

The main idea behind Goal n°3 is that it is the privatisation of nature that leads to its exploitation. The making of private property is, in reality, a shifting of already existing, yet often unwritten, property rights. Harvey (2003) calls it "accumulation by dispossession" to describe a process whereby private ownership rights are imposed onto things that were previously managed publicly, communally, or not at all (e.g. land-grabbing of communal

[1] One often attributes the first use of the term "predistribution" to J. Hacker who used it in 2011 to describe the actions of a government trying to reduce inequality without resorting to tax and benefits, for example by providing public services to all, raising the minimum wage, or regulating corporate governance (Hacker, 2013). Here I make a totally different use of the word: predistribution as the distribution of property rights over things which used to be owned by no one (e.g. knowledge, nature). What Hacker calls *predistribution*, I call *distribution*.

[2] Here is how the website IMDB describes the plot of the film *Minority Report* (2002): "In a future where a special police unit is able to arrest murderers before they commit their crimes, an officer from that unit is himself accused of a future murder."

pasture or bio-piracy of ancestral knowledge). "Property is not theft," Tawney (1920: 70) writes, "but a good deal of theft becomes property."

Once something is property, it can potentially become capital. This is especially true for private property if understood as the "sole and despotic domination" over things "in exclusion of the right of any other individual in the universe" (Blackstone, 1765). This is because of the growth drivers explored in Chapter 1. Every time something is privatised, someone becomes a proprietor (an income-seeking individual or a profit-seeking firm) that is likely to demand to be compensated for the use of this asset, regardless of what the asset is, and irrespective of the consequences of that use for the asset itself or the world around it. The assignment of private property rights not only pre-conditions but also incites market activity. The risk is that anything and everything gets turned into commodities: water, clean air, poetry, online conversation, or this dissertation.

The allotment of private property rights over assets used by many enables economic rent. An economic rent is the income derived from the property of an asset. If I own a house, a car, or anything else, I can *rent* it to you, meaning you will pay me to use it. In political economy, the notion of "rent" refers specifically to these situations where money is made without production, that is, "any benefit that is derived from exclusive possession of a scarce or exclusive factor of production, in excess of the cost of bringing that factor into production" (Ryan-Collins et al., 2017: 39). It is not value creation but value extraction (Mazzucato, 2018).[1] The difference between rent and profit is that the former does not involve production but only appropriation – "value grabbing" (Andreucci et al., 2017) or "profiting without producing" (Lapavitsas, 2013). As such, rent is the redistribution of already existing value.

Rent is unilateral reciprocity: you do something for me without me having to do anything for you, except temporarily withholding my user rights over an asset that I happen to own. Let us not mistake this as solidarity because it happens at the expense of the one renting (of course, in certain situations, both parties end up better off). Rent is a social relation only possible in an unequal society: If everybody had access to the assets necessary to fulfil their needs, why would they rent them? And it is also a mechanism that exacerbates the unequal distribution of ownership rights. If I own several pieces of land that I rent out, I am using my possessions (land) to capture part of your possessions (money). The ones receiving an unearned income benefit from – and reproduce – an unfair pre-distribution of property. In light of the values mapped out in Chapter 6, rent is a form of economic domination.

But not all forms of ownership are equally conducive to capital accumulation. Public property can sometimes safeguard non-economic interests (e.g. restoring historical buildings, keeping art pieces in open-access museums) while communal property is immune to growth if it focuses on satisfying specific needs, which are themselves finite (e.g. having access to quality knowledge on Wikipedia, trusted publications in open-source journals, or quality food in an urban garden). My point is that the way ownership rights are initially set up will either allure for further production, commoditisation, and growth of an asset, or keep it within the non-growing, sustaining sphere of reproduction. To simplify, depending on the shape of the bundle,

[1] "By 'value creation' I mean the ways in which different types of resources (human, physical and intangible) are established and interact to produce new goods and services. By 'value extraction' I mean activities focused on moving around existing resources and outputs, and gaining disproportionately from the ensuing trade" (Mazzucato, 2018: 6).

property titles can either be conditions of growth or conditions of sustainability (imagine them as name tags put on things to either mean "take down to the market" or "not for sale").

Something is most easily privately appropriated if it is believed to be the property of no one. Most ecosystems (starting with the climate) are perceived to be under such open-access regimes; I can burn as much fossil fuels as I want because the climate belongs to no one and so no one can hold me accountable. It is precisely this mentality that leads to the "tragedy of the commons" described by Hardin (1968). And yet, the need to establish environmental property rights should not be misunderstood as a splitting and fencing of the climate into quotas to be sold to the highest bidder. Rather, it is not only a matter of establishing new property rights but also acknowledging unwritten existing ones, for example the ones of indigenous communities. In doing that, one often realises that traditional ownership regimes are perhaps more inclined to ensuring non-exploitation than the hegemony of private property prevailing in the Western world. If property is understood as a bundle of rights, the property question regarding nature is unavoidably philosophical and political: What is our relation to the climate? Who benefits and who suffers from that relation?

Hence the main point behind this goal: certain assets should not be turned into private property. Degrowth involves both a retraction of private property on a number of frontiers (helping decommoditisation) and the protection of certain assets from private appropriation (resisting commoditisation). Whereas this logic applies to a wide array of too-important-to-be-privatised assets such as knowledge, I will here only focus on environmental amenities.

I do so because I believe the case of private appropriation and commoditisation of nature constitutes the perfect exemplar of how a specific property regime can lead to exploitation. This case is particularly noteworthy because it involves the fundamental reflection about the relation humans have with each other and with non-human others. For expositional purpose, and to follow the previous divide, I split the discussion into limits having to do with activities of (1) *extraction* and (2) *excretion*.

For limiting extraction

This part is concerned with all the "resources" that come from nature, namely energy, materials, water, land, nonhuman animals,[1] and more generally ecosystems and the "services" they provide. The objective of degrowth is to reduce resource use and this section details how their ownership status should be changed in order to do that. I put *resources* and *services* in quotation marks because, as I will soon show, naming them as such is already a form of ownership. The central message is that the most effective way of caring for nature is to grant it intrinsic rights enshrined in law. While this applies only to parts of nature, the remaining amenities are most sustainably managed within public and commons forms of ownership.

In Chapter 2, I defined four types of natural resources: energy, materials, water, and living biomass. Each of these resources demand their own type of threshold, which already give us four types of limits to extraction: *energy-limits*, *material-limits*, *water-limits*, and *living biomass-limits*.

An important difference is between *renewable* and *non-renewable* resources, each requiring a limit of a different kind. Let us start with non-renewable. For example, the extraction

[1] Humans are animals too but for ease of reading I will write *animals* when referring to nonhuman animals.

of fossil water (ancient freshwater trapped in underground reservoirs) is limited by the fact that there is only a set quantity available to extract (the same applies for fossil fuels and materials). Ultimately, a sustainable and circular economy should not come to rely on such resources, hence Herman Daly's rule which dictates that non-renewable resources should be extracted at a rate equal to the rate of development of renewable substitutes (Chapter 2).

To these scarcity-limits can be added another type of limit having to do with environmental damage. The extraction of certain non-renewable resources can come to endanger the functioning of certain Earth systems – for example, it is estimated that 80% of coal, oil, and gas remaining reserves must remain unburned to keep global heating below 2°C (Carbon Tracker, 2013). It is these two limits together (*scarcity-limit* and *damage-limit*) that set an upper threshold to extraction.

As for renewable resources, the limit has to do with their rate of replenishment (so let us call it *replenishment-limit*). If overharvested, a fish population fails to reproduce and disappears; the same situation holds for trees and soils. Renewables like solar, wind, geothermal, and hydropower are limited by both natural phenomena (solar radiation, wind, grounded heat, and water flows) and our technical capacity to turn those into usable energy. Rain water can be used for irrigation but only in an amount equal to what the rain brings. And just like non-renewable, renewable resources can be extracted at a pace that becomes damaging for the ecosystems that host the resources, meaning that renewable have a *damage-limit* too (e.g. overfishing of one species leads to a food chain collapse; if bees die, crops will fail; rotting vegetation in dammed water emits methane).

With these types of limits in mind, let us now discuss two different ownership regimes that could ensure they are respected.

Granting intrinsic rights to nature

It all starts with breaking down the notion of "natural resources." Bundling cows and bees and oil and rivers into the single category of "resource" is *standardising*, the first step of the process of commodification (Chapter 6). Once something is standardised, it is more easily quantified, monetised, privatised, and finally commoditised. Once nature has reached the market, it is then subjected to the logic of capital and becomes a means of monetary accumulation. Because the accumulation of money knows no boundaries, it will sooner or later trespass biophysical limits and create a situation of ecological exploitation.

One way of slowing down "resource use" would be to stop treating natural entities as resources (e.g. cows not cattle, bees not pollinators, forests not firewood, the atmosphere not the climate sink). As silly as it sounds, it basically means using the vocabulary and attitude one would find in a children's story: not pork but *Babe* (1995), not fish stocks but *Nemo* (2003), not game but *Bambi* (1942), not pests but *Ratatouille* (2007), not fur but *Fantastic Mr. Fox* (2009). Likewise, the term "ecosystems" is perhaps unfortunate for that it depicts nature using the language of engineering (system), reproducing the Cartesian understanding of nature as a smooth running machine, which facilitates its exploitation. A broken machine can be controlled and fixed if broken. But that is not the case for ecosystems. After all, should we not instead think of ecosystems as *natural societies*? Seeing them as such would make us realise that burning a forest is more akin to genocide than it is to stopping a clock.

In practice, this would take the form of intrinsic rights enshrined in law. It would remove "resources" from the realm of property, ceasing to be an *object* and becoming a *subject*. This has already happened in some parts of the world.[1] These rights of nature are already enshrined in several local, regional, or national constitutions (e.g. Bolivia, Ecuador, Mexico City). For example, the Article 71 of the 2008 Ecuadorian constitution states that: "Nature, or Pacha Mama, where life is reproduced and occurs, has the right to integral respect for its existence and for the maintenance and regeneration of its life cycles, structure, functions and evolutionary processes." As a subject, a natural society (or *ecosystem* in Cartesian parlance) could itself be entitled with property rights. For instance, the fish swimming in the Whanganui River of New Zealand, which was recently granted legal status as a person, are property of the Whanganui River, and all matter of fishing must be discussed in relation to that subject's rights. What is needed is a legal framework that could condemn damage inflicted upon entire ecosystems. This is the proposal of the so-called "**ecocide**" (for more see Higgins, 2010).[2]

Let us take farming as an example. Animals are both the direct and indirect victims of extractivist tendencies. Directly because the most common relationship we have with domesticated animals is that we eat them; and indirectly through the biodiversity loss engendered by the various pollution created by human economies. Livestock farming is one of the main contributors to climate change, with 14.5% of global greenhouse gas emissions in 2013 (Gerber et al., 2013).[3] According to the IPCC (2019), Agriculture, forestry, and other land use caused 23% of total anthropogenic greenhouse gas emissions from 2007 to 2016. Additionally, farming also plays a part in various equally concerning environmental breakdowns, from the accumulation of green algae on the coast of Brittany to the increase in antibiotic resistance. (Of course, the magnitude of the impact depends on the style of husbandry; for example, high impacts for large Confined Animal Farm Operations and low impacts for agroecological livestock systems.)

All these reasons warrant intervention, but what form should it take? One could increase the taxation of animal products (e.g. just like for water, shifting certain animal products to the normal 20% VAT category instead of the current 5,5%), even though such an economic instrument is limited in scope, particularly from the perspective of degrowth. The law is a more promising option (even though nothing prevents combining the two). Titled "*Non-Commodification of the Environmental function of Mother Earth*," the point two of Article 4 of the *Law 300* (2012) in Bolivia sets a precedent in terms of acting against the commercialisation of "nature's contributions to people" (a new term to refer to *ecosystem services*). One could

[1] The *Whanganui* river and the Te Urewera national park in New Zealand (2017), the *Yarra* river in Australia (2017), the Himalayan *Gongotri* and *Yamunotri* glaciers as well as the *Ganga* and *Yamuna* rivers in India (2017), the *San Severino Ramos* natural water spring in Brazil (2018), the *Turag* river in Bangladesh (2019), and the rivers *La Plata*, *Cauca*, *Coello*, *Combeima*, and *Cocora* in Colombia (2019).

[2] As detailed on the "ecocide law" website, ecocides defined as: "acts or omissions committed in times of peace or conflict by any senior person within the course of State, corporate or any other entity's activity which cause, contribute to, or may be expected to cause or contribute to serious ecological, climate or cultural loss or damage to or destruction of ecosystem(s) of a given territory(ies), such that peaceful enjoyment by the inhabitants has been or will be severely diminished" (Ecocide law, 2019).

[3] Even if "livestock" farming was carbon neutral, it would still remain problematic from an animal welfare perspective. Cows, sheep, pigs, horses, chicken, and all the others are closer to *life* than they are to *stock*. Because of the way I have defined the axiom of care in Chapter 6, degrowth involves a form of solidarity between humans and non-humans which, vegans may argue, starts by *not* eating them.

also imagine stronger animal rights[1] like in India,[2] or Québec's "Law on the well-being and security of animals" (2015), which grants animals the right of "well-being" and the absence of "distress" (even though these rights do not yet apply to farming animals, which are arguably the animals in most dire needs of legal protection against exploitation).

With a status shifting from object to subject, it means that certain interests that were unpresented in the current ownership regime such as non-humans and future generations are explicitly acknowledged as stakeholders. If a river is being granted legal personhood, and if a company pollutes that river, it is not a pre-determined – and therefore calculable – *tax* that should be paid but a unique and unpredictable *fine*. And that fine should be set in a tribunal by considering damage done to the river itself and to all the ones whose livelihood depends on it, either today or in the future. A tax compensates while a fine punishes; taxes are market instruments and fines are political instruments. Bringing the stewardship of nature under the hospice of the judicial system is one way of re-embedding the market economy within society.

Nature as commons

Putting a private property title and a price on something is a way of acknowledging value. This is not, however, the only way, as amply showed by Elinor Ostrom's work (1990). Certain resources can be granted legal personhood (the option we explored in the previous objective), some can be protected by public authorities, and others can be managed as commons. If you happen to dig out an invaluable historical artefact in your garden, it will not be your private property. The government will *appropriate* the artefact as to make it available to all, usually by putting it in a museum. Now, if you happen to discover oil, minerals, or a species of beetle on the land where you live, the broader community should also have entitlement rights over them if they are affected by their use.

This is my main point: the ownership of a resource comes with a responsibility towards this resource and towards others through the use of that resource. In situations where the alienation of a resource (e.g. burning of oil) generates harms for others, *the right to alienate* should be taken out of the bundle. In situations where restricting access to the resource would endanger the livelihood of others (e.g. overfishing or natural springs enclosure), then the *right to restrict access* should be taken out of the bundle. In situations where the management of a resource becomes a matter of inter-generational justice (e.g. extraction of phosphorus), then the *right to manage* should be taken out of the bundle.[3] The acknowledgement that a certain resource cannot be privately owned and should thus be treated as a common good is the first step in ensuring that it is democratically managed.

This is also the logic behind nature conservation initiatives like the United Nations Educational, Scientific and Cultural Organisation (UNESCO) *World Heritage Sites*. A World

[1] During their campaign in the 2019 European elections, the French *Parti animaliste* proposed several policies: create a legal status for animals, ban cruel breeding and slaughter techniques, limit the transport of animals to 8 hours maximum, forbid the export of live animals, set an objective for reducing of animal-based products by 25% of 2015 levels by 2025, stop protecting certain so-called "traditional" practices like bullfighting and *foie gras* (duck's liver).

[2] An Indian court ruled that animals should be granted the same rights as human beings: "they have distinct personas with the corresponding rights, duties and liabilities of a living person." The ruling prohibited the use of spikes against farm animals and declared that under certain weather conditions (above 37°C or under 5°C), it shall not be "permitted to keep in harness any animal used for the purpose of drawing vehicles" (Ray, 2018).

[3] It is this logic that underlies sovereign oil funds, like in Alaska, Norway, Kuwait, Saudi Arabia, Angola, or Gabon.

Heritage Site is considered valuable for humanity as a whole and therefore conserved for posterity – there are 213 natural heritage sites out of a total of 1,121 sites in 2019 according to the UNESCO website. These are granted an international legal status that protects them against alienation. Granting a forest, a coral reef, a lagoon, a swamp, or a chain of volcanoes the World Heritage status protects it from short-term moneymaking and the exploitation that comes with it – it becomes a resource sanctuary. The same logic applies to cultural sites such as the Palace and park of Versailles in France or the decorated farmhouses of Hälsingland in Sweden: these sites cannot be altered in such a way that their profound identity is altered. If any of these sites are endangered, it is the interests of humankind as a whole that will lead the prosecution.

Let me now illustrate how public and common ownership can substitute for private ownership with the example of water. I often get into arguments with restaurant servers about their refusal to serve tap water. If certain natural "resources" should cease to be treated as commodities, water is first on the list. If access to drinking water is a human right in the eyes of the United Nations since 2010, why should I be deprived from that right on the ground of being unable or unwilling to pay for it? If "water is a part of the common wealth of the nation" as stated by the Article L210-1 of the French *Code de l'environnement*, then what does that entail regarding its management?

And water is indeed necessarily managed. It needs to be extracted, purified, tested, stocked, transported, collected, and cleaned or, in one word, produced. But it is not because water is produced that it should be treated as a market product. As I argued in Chapter 6, gratuity does not make the cost vanish (here of producing water) but simply distributes it politically within the members of the community. For instance, setting a ceiling of water expenses at 3% of available income is a way to ensure that the cost of water does not become unbearable for low-income households.[1]

If water is a human right, then its provision should be discussed with similar concerns than freedom from slavery and torture or freedom of expression. One does not often hear that "freedom from slavery and torture is unaffordable" or that a private company would be "more efficient at delivering freedom from slavery and torture."[2] As a public utility, one should not even speak of the "price of water"; rather, we should think of the cost of the service granting access to clean water – it means that the "price" of water should be political and not economic.

In France, 60% of cities have privatised their water management, which has led to price increases ranging from 27% to 44% compared to municipal management (Ariès, 2018: 172).[3] Even though, the municipality participates in price setting, it is ultimately the private water provider that have the final say. Following its profit motive, the firm pushes prices up, which risks placing low-income households in a situation where they cannot afford access to water. This constitutes a breach of human rights as defined by the United Nations.

In opposition to the private ownership of water, more than sixty cities have declared water gratuitous. For example, the city of Roquevaire (9,000 inhabitants) renders the first 30m^3 per year free of charge before applying a two-bracket pricing, relatively cheap between 30 and

[1] The tax on bottled water (€5.40 per m^3 for a total of €52 million in 2017) to compensate the city where the water is being extracted is another example.
[2] As Ariès (2010c: 3, mt) asks: "Did the people of Paris calculated the economic consequences of taking the Bastille?"
[3] At a yearly expense of €453 per household (Eau France, 2014), this represent a difference of €122 and €199 each year.

120m^3 and more expensive after that (Ariès, 2018: 175).[1] Same system in the Lacs de l'Essonne community of cities (58,000 inhabitants) where a daily 3 litres is given free of charge to satisfy basic needs for drinking and hygiene. In such system of communal management, the price of water is set via deliberation in the municipal council and set at cost level. Because water is cheap (environmental economists would say *under-priced*), there is not much of an incentive for companies to reduce its use or to develop and promote technologies that do so (e.g. grey water division, rain water collection). But because water is precious, it is in the interest of the community of users to preserve its fair and sustainable access. If use value should prevail over exchange value (one of the argument of Chapter 6), profits on water provision should not be allowed to risk undermining water provision itself.

When it comes to water provision, degrowth demands a "remunicipalisation" of water (Mouzon, 2019), following the examples of cities that are retaking control over their water system from the private company that used to run it. This is a good example of a transition from private to collective and/or communal property.

For limiting excretion

Who owns the trash, the polluted air and water, the dead species, or in a single word, the *waste* left behind after consumption? One too often believes that a waste is something whose ownership has been abandoned, an object without a proprietor. But it is precisely because waste is most often framed by an uncontrolled ownership regime that excretivist tendencies can continue undisturbed. The question then becomes: Which ownership regime is most inclined to solve waste issues? The claim of this objective is that the current commoditisation of waste via price-based mechanisms of allocation is unfair and that it would be better managed by quantity-based mechanisms such as cap schemes.

But let us start by acknowledging two facts. First, under the current order of things, waste is often the de facto private property of the poorest. Distinguishing between *positive property* having to do with the distribution of benefits and *negative property* (or perhaps *anti-property*) having to do with the distribution of burdens, it is today the ones who are poorest in money that are richest in pollution. When a private firm mines minerals, it ends up with ownership of the extracted resource (positive property), but it lefts ownership of the polluted water to others (negative property). The poor are forced to confront these burdens – it is a kind of reverse access right where they do not have the possibility to *not* access it (Martinez-Alier, 2002). It is the most disadvantaged who drink polluted water, breath fumes, and bear the sight of landfills (e.g. Lavaine, 2015 for France, Deguen et al., 2015 for Paris). It is also them who suffer the most during extreme weather events, for example during the 2003 heatwave in France (Keller, 2013; Poumadère et al., 2005). In short, it is the most vulnerable who bear the costs of this "accumulation by contamination" (Healy et al., 2012). Seen this way, the climate (and nature in general) is not an open-access regime. Instead, every time someone emits a ton of greenhouse gas or throw a plastic bottle into the ocean, a negative property right is being granted to someone else in the world either today or tomorrow.

[1] Filling up a swimming pool requires the water equivalent of 1,000 showers, or roughly half of the yearly water consumption of the average user (120m^3).

Second, there will always be pollution (a broad term I use for all forms of *environmental damages*). This assumption runs counter to the green growth discourse which assumes that pollution will be phased out via technological innovation and structural change. In contrast, I argue that pollution should be discussed politically and not just technically (or technologically). This is not to say eco-innovations are unnecessary because they are indeed important, but rather that the prospect of future inventions should not be used as an excuse to avoid dealing with the maldistribution of environmental burdens today. If pollution cannot magically disappear, then there should be social protocols to ensure that it is limited to levels that are sustainable and shared in a way that is just.

Now let us discuss how to do precisely that. The most straightforward answer is to **ban** the types of pollution that are most disruptive. For example, plastic could be legally recognised as "hazardous waste," as proposed by Rochman et al. (2013), which would pave the way for a more strident legislation on the production of all plastics (e.g. the banning of single-use plastics currently unfolding throughout India). Another example is pesticides. Since January 2019 in France, synthetic pesticides are forbidden for sales to individuals. As for uses in farming, instead of regulating the application of the product (the proposal currently discussed is to prohibit spreading at the close vicinity – between 5 and 10 metres – of habitations), one could simply declare its use forbidden because of its damaging effect on humans and ecosystems.

But not all pollutions can be banned. Glyphosate, polythene bags, and asbestos can easily be identified in a process of production and substituted for. This is more difficult for greenhouse gases like carbon or methane that one finds in the life cycle of nearly every product. Or even plastics that one uses in both surgical gloves (necessity) and soda bottles (luxury). For the types of pollution that cannot be banned, or that needs a period of adjustment before being banned, limits can take two main forms: taxes and caps.

In economics, the instinctive solution would be to make the polluter pay. Putting a price on the social and ecological cost of excretion would "internalise externalities" in economic jargon, meaning it would eventually balance the benefits and the burdens. This can be seen as a form of privatisation of waste with companies retaining ownership over their pollution until they pay for the right to properly dispose of it. This can take many forms. Either as an excise tax per product (e.g. The Canadian "Air Tax" with a $100 duty levied per air conditioning unit); a severance tax on the extraction of resources like the "global resource dividend" proposed by Pogge (1994, 1998) where countries pay a tax on all sales of natural resources with an international agency responsible for redistributing the revenues fairly; or a tax per ton of emitted carbon as in the carbon tax in France since 2014.

While this sounds like an appealing solution, it bears certain risks. Most importantly, the gradualism of such limits does not accommodate for the absolute irreversible thresholds of natural systems. Money is a social construction that, history has shown, can be created at will; climate stability and other forms of ecosystem integrity, on the other hand, is a matter of limits partly outside of human volition. Once privatised, pollution becomes a willingness-to-pay problem, with large transnational corporations holding disproportionate rights to pollute just because they have money. In that sense, it is an indirect auctioning of polluting rights to the highest bidder.

One could also add that a tax is unequal for that it does not make a difference between "subsistence emissions" and "luxury emissions" (Shue, 1993), even though this issue could be

designed out, e.g. via a Fee & Dividend system[1] where poorest households receive what has been paid by the richest emitters. It remains that in its current design, the French carbon tax is highly regressive with the 10% of poor households paying four times more (in proportion to their income) than the 10% of richest households (Malliet and Saussay, 2017).

The alternative to a tax is a cap. In a price-based system like a carbon tax, a ton of carbon has a fixed or fluctuating price but the total quantity of emissions is not limited. In a **cap system**, the total volume of emission is limited to a maximum level. A *cap* is different from a *target*. Targets apply to price-based mechanisms like taxes where the outcome (whether the target is reached or not) is uncertain. With a quantity-based system like a cap & trade or a cap & share, the target is achieved at the start, it is the precondition for its existence. If the logic behind a cap sounds like *rationing*, that is because it is. The term "rationing" may have lost its appeal, but the logic behind remains relevant for thinking about limited resources (Cox, 2013).

Rationing via caps are already in place for several "resources," for example, the hunting of animals. Each year, the *Office National de la Chasse et de la Faune Sauvage* (National Agency of Hunting and Wild Fauna, mt) sets a maximum number of kills for each animal during the season, preventing hunting from destabilising ecosystems. Fishing requires a licence that also sets a maximum number of catches, and certain sensitive areas require recreation permits, which authorities use to limit the influx of visitors. The way these quotas are organised can be up to debate, but the logic of capping extraction to a sustainable level remains. Permits can then be priced or not, shared or exchanged in countless different ways, as I will further detail in the policy instrument section below.

Capping requires to place legal moratoria on the exploitation of natural resources. In the case of greenhouse emissions and climate change, this could take the form of moratoria on new exploration and production, either at the national level (e.g. New Zealand, France, Belize, and Costa Rica) or at the international level (e.g. the mining moratorium in the Article 7 of the *Environmental Protocol of the Antarctic Treaty*, or the protection of *World Heritage Sites*). Newell and Simms's (2019) proposal of a "fossil fuel non-proliferation treaty" is a perfect example of a strong political (as opposed to market-based) intervention to mitigate climate change.

But let us be careful. The European Emissions Trading Scheme (henceforth EU ETS) is often referred to as a "cap and trade," but this is a misnomer because the ultimate quantity of emissions has no proper ceiling. A problem of the scheme is that it has "soft caps," meaning that the total quantity of emissions can be extended (e.g. via Clean Development Mechanism and Joint Implementation), which makes Chamberlin et al. (2015) classify flexible cap & trade schemes in the like of the EU ETS as price-based schemes in the like of a carbon tax.[2]

Capping does not necessarily lead to a market form of allocation. Alternatively, emissions quotas could be allocated to individuals. This is cap and share, a scheme first proposed by the Irish think-tank Feasta in 2008 (see Feasta, 2008 for the original paper). Here

[1] In the "carbon fee-and-dividend" system advocated by the international *Citizens' Climate Lobby*, for example, all the revenues of the tax is given back as a monthly dividend equally shared among all citizens. Alternatively, Guillou and Perrier (2019) propose a *"prime de transition écologique*" (ecological transition bonus, mt) that would redistribute 70% of the tax revenue to the five poorest deciles while dedicating the remaining 30% to investment in green energies.

[2] The soft cap issue is only one of the shortcomings of the EU ETS. Another weakness is that the scheme only covers a small part of all emissions: the EU ETS includes 11,000 industrial plants representing less than half (45%) of all EU emissions (Durand, 2018).

is how Douthwaite (2012) describes the idea. Imagine the EU would set a cap on the volume of CO_2eq emissions that can be emitted in a year (the *capping*), split that budget into ton-denominated permits, and allocate it equally between all European residents (the *sharing*). Upon receiving these carbon tokens, people could sell them to, let us say, a carbon bank against official currency. Producers in need of permits would then purchase them form the carbon bank as to cover their greenhouse gas emissions for the year (the *trading*).

From the perspective of degrowth, this is the limitative mechanism I find the most appropriate. Perhaps a heuristic to think about eco-limits could be: *ban* whatever is possible, *cap* whatever must be limited to an absolute limit, and *tax* the rest. Or even, ban whatever is possible *today* and cap pollution in a decreasing fashion until it becomes possible for them to be phased out completely via a ban.

Policy instruments for predistribution: Personal energy quotas

This third goal is clear: reduce environmental pressures. There are many policy instruments to do this, including several already in place in France. The French architecture of eco-taxes is vast and diverse, with around forty instruments in total and annual revenues between 50 and 60 billion euros (Chemin, 2019). There is, for example, a *taxe générale sur les activités polluantes* or TGAP (general tax on polluting activities, mt) since 2000,[1] an *eco-contribution* (or *eco-participation*) on recycling since 2005, and a carbon tax applied on already existing taxes on energy products since 2014.[2]

And yet, there is much evidence that this approach has failed. For instance, the carbon footprint of France (in carbon equivalent and including emissions embedded in importations) has risen from 694 Mt CO_2 per capita in 2000 to 731 Mt CO_2 per capita in 2015 (CGDD, 2019: 39). In addition to be ineffective, the current taxes are also poorly designed and unpopular (remember the role of the carbon tax in the Yellow Vest Movement from Chapter 5). A new environmental policy strategy is direly needed.

What I suggest in this section is to centre environmental policy around a Tradable Energy Quotas (hereafter TEQs) scheme. The TEQs proposal originates from British environmental writer David Fleming who first proposed it in 1996 (reference texts are: Fleming, 1996, 1997). The proposal has been developed by other scholars, politicians (most notably the British Green Party), and activists mostly in the UK (for a detailed history, see Chamberlin et al., 2015: 420-22).[3] I say "*centre* environmental policy around" because I do not imply that TEQs is a panacea. What I will attempt to show is that TEQs provides a fresh framework to articulate already existing – and let us remember, failing – environmental policies.

Some resources are more important than others and energy is the most crucial of all. Energy is central because all economic activities need it. The extraction of materials, the

[1] The tax was introduced to operationalise the polluter pays principle. Proportional to the level of pollution, it consists of five elements (all numbers correspond to 2019 rates): (1) waste tax to reduce non-harmful waste (between €3 to €151 per ton); (2) emission tax on substances like mercury (€1,042 per kilo) or copper (€5 per kilo) among others; (3) tax on oils and lubricants (€49 per ton); (4) tax on detergent (€44-316 per ton); and (5) tax on extraction materials (€0.20 per ton). The revenue from the TGAP was €726 million in 2015.

[2] The "*taxe intérieure de consommation sur les produits énergétiques*" (domestic consumption tax on energy products, TICPE), the "*taxe intérieure de consommation sur le gaz naturel*" (domestic consumption tax on natural gas, TICGN) and the "*taxe intérieure de consommation sur le charbon*" (domestic consumption tax on coal and coke, TICC).

[3] The version of the scheme I use is the one presented by Fleming and Chamberlin (2011) in the parliamentary report "*TEQs: Tradable Energy Quotas. A Policy Framework for Peak Oil and Climate Change*."

pumping or desalination of water, or the breeding of animals require energy – in France, 70% of all greenhouse gas emissions have to do with energy (CGDD, 2019: 37 using data from 2016). This makes energy a common denominator to almost all environmental impacts.

The most pressing issue about energy is to limit the use of fossil fuels (petroleum, coal, and natural gas) in order to avoid climate breakdown – fossil fuels currently represent almost half of all energy consumed in France (CGDD, 2018: 18). And this is what the Tradable Energy Quotas system focuses on: phasing out fossil fuel energy sources from the energy mix by capping the total volume of greenhouse gas emissions.

Here is how it would work. Every year, an independent public organisation would set the total amount of greenhouse gas that can be emitted nationally based on IPCC recommendations as to avoid catastrophic climate change. This is the cap. In France, this would be 398 mt CO_2eq per year between 2019 and 2023 according to the carbon budget set in the *Stratégie Nationale Bas-Carbone* (low-carbon national strategy, mt). This *carbon budget* would be split in a number of permits, each of the value of 1 ton of carbon emissions (so 398 million permits for the year 2020 in France). The budget would be gradually declining following a schedule fixed by legislation as to reach carbon neutrality (by 2050 in current French climate commitments) or any other climate target.

As the system starts, a full year of permits would be issued at once, giving some flexibility for actors to adapt. Then, permits would be distributed in two ways. Every week, a portion of them would be directly given to every adult residing in France in an equal amount as part of their autonomy allowance (Goal n°1). These will be automatically credited on an individual electronic account (smart-card) affiliated to a bank account. (It will be exactly like the current French energy voucher except granted to everybody.[1]) Should the entirety of the 2020 carbon budget be equally distributed among the French population, it would amount to 5.9 tCO_2eq per person – just to compare, this is about half the carbon footprint per capita in 2017, which was at 11.2 tCO_2eq in 2017 (Baude, 2019). The rest of the permits would be auctioned to institutionalised energy users (e.g. firms, government, associations) via primary dealers (an institution with a monopoly for the trading of carbon permits), and also on a weekly basis.[2]

The relative size of each part (the one given directly to citizens and the one auctioned to energy-using organisations) is a decision that should not be taken lightly. Whereas, ultimately, it has the same overall effect in terms of reducing emissions, there are endless ways of distributing permits, some arguably fairer than others (for example, allocating permits on the basis of past emissions benefits the actors who have contributed the most to climate change).

Every time a consumer purchases fuel or electricity in euros, a certain number of permits would be automatically deduced from their personal carbon allowance, with the amount varying depending on the carbon-intensity of the product. For example, if I buy 40 litres of diesel for my car, I will pay 52€ at the current €1.3 per litre and use 0.12 carbon permits (because the carbon-intensity of diesel is 3.1 CO_2 per litre and a permit is worth a ton of CO_2). If I pay cash, I will have to pay €52 plus the additional cost of 0.12 carbon permits at their current national

[1] Since 2018, the energy voucher (*chèque énergie*) has replaced social pricing for electricity and natural gas. Every year, a voucher of between €48 and €277 is automatically sent to households under a certain income threshold. They can then use it to pay their invoices for electricity, natural gas, wood, heating fuel, as well as energy-saving renovations.

[2] This is the difference between TEQs and the "Personal Carbon Allowances" of Hillman and Fawcett (2004), with the latter only applying to individuals and not organisations.

price. This procedure only occurs during the purchase of energy products and not for any other goods and services. And yet, because energy is necessary during the life cycle of any product, the scheme will have an impact on all products.[1] Indeed, every time a firm wants to purchase energy products, it also needs to redeem carbon permits to an amount equivalent to the carbon-intensity volume of its purchase. So the permits will then go up the chain from consumers, to retailers, to wholesalers, to producers, and finally to primary energy providers and importers that would then surrender their permit to the central agency to obtain energy.

The permits would be tradable by individuals. Those using less than their personal entitlement will be free to sell them at the national price to a permit primary dealer. And in reverse, households who wish to consume more than their share could purchase the permits available for sale. Because all permits are issued by being either granted to a person or sold to an organisation, there can only be as many permits being bought on that secondary markets than there are being sold.

An eco-tariff would be introduced to prevent unfair competition between domestic production within the TEQ system and imported products whose emissions are unpriced. The imports from countries that do not price their emissions would be taxed at the carbon price set in the importing country depending on the carbon-intensity of their products. The revenues from this tax would be given in totality either to the exporting country (granted it is being used for the ecological transition) or to a global climate fund.

From a degrowth perspective, stewardship of nature consists in **2 objectives**:

- limiting extraction; and
- limiting excretion.

To achieve these, the main policy instrument is an **emission capping scheme**:

- whose cap should be decreasing in time;
- granted as a universal allowance to all residents and auctioned to institutional energy users via price-controlled auctions;
- tradable by individuals in a price-controlled secondary market.

Conclusions for chapter 9

FROM a degrowth perspective, transforming property means redistributing the wealth that exists (*sharing possessions*), ensuring a fair split of the wealth that will be created in the future (*democratic ownership of business*), and preventing the private appropriation of environmental amenities as to ensure a fair distribution of benefits and burdens throughout society and beyond (*stewardship of nature*).

[1] In theory, it would be possible to extend the scheme to all goods and services – the "Domestic Tradable Quotas" system of the Tyndall Centre attempts to do just that (for details, see Starkey and Anderson, 2005). As Chamberlin et al. (2015) note, however, this would involve complicated carbon rating accounting for the full life cycle of every single product.

The first goal is: **sharing possessions**. In a highly commodified society, this means placing both minimum and maximum thresholds on the earning of income and the accumulation of wealth. In a spirit of sufficiency, the ceilings guarantee that no one has too much while providing for the universal provision of satisfiers of fundamental needs. This logic of sharing does not only pertain to money but also apply to the construction of object-sharing networks. To achieve such objectives, I have suggested three policy instruments: a progressive income tax reaching 100% above €90,000 per year; a progressive wealth tax reaching 100% above €2 million; and an autonomy allowance denominated in official money, alternative currency, and entitlement rights to goods, services, and amenities.

The second goal is the **democratic ownership of business**. The rules of business should be changed on three aspects. Instead of seeking financial returns, all businesses should be able to define a mission of social benefit. Instead of being owned and controlled by external investors, firms should be organised as cooperatives with governance entrusted to direct stakeholders. At last, it should become impossible for a firm to become too large in terms of turnover, employees, and geographical span. I have put forward the Collective Interest Cooperative Company (SCIC) as an example of a business model fitting these features. To encourage the generalisation of such practices, I suggested changes in corporate taxation, public procurements, as well as a more active involvement of the State in the breaking down of corporations.

The third goal is the **stewardship of nature**. This consists of placing limits on both *extraction* (resource use) and *excretion* (pollution). In terms of resource use, I suggested to enshrine the rights of nature in law and to prevent the private appropriation of environmental goods. Concerning pollution, I proposed a heuristic of ban-cap-tax with different types of limits on a number of environmental impacts. The policy instrument associated with this third goal is an emission cap scheme following the Tradable Emission Quotas (TEQs) system.

Chapter 10

Transforming work

SO *what do you do*? Familiar to all of us, this question embodies the common sense of a time, an obsession with an activity that has become so natural it is hardly questioned: work. Work is how we occupy most of our waking hours, a source of income but also a way to socialise, a means for self-accomplishment and social recognition, and for many, a constitutive feature of one's identity (Gheaus and Herzog, 2016). But is not considered *work* any work. Writing poetry, playing chess, or caring for a sick relative are not satisfactory answers to the what-do-you-do question because they are unpaid. So it is the work that is remunerated which one is expected to do, with "what do you do" effectively meaning "what do you do *for a living*."

But there is a problem with this vision of work, or actually several. Paid employment is maldistributed and a driver of inequality, it is a medium for exploitation of both people and nature, it drains energies outside of the workplace and trains hierarchies inside of it, and it commodifies time and legitimises a narrow definition of wealth. Behind any infringement of social-ecological justice, there is someone who is "just doing their job." Work is trouble but so is its absence. Not only has unemployment disastrous effects on individuals and communities but it is also one of the main motivations for governments to pursue economic growth. If work-is-good and growth-creates-work, workmanship becomes an integral part of growthmanship. And if escaping growthmanship is the purpose of degrowth, then workmanship must be opposed as well.

Work is the problem but also part of the solution. In Chapter 4, I examined the relation between Gross Domestic Product (GDP) and employment assuming that work was nothing more than contractual wage-labour. In this chapter, I start from a different conceptual outlook: work is not only an activity among others but a social mode of organisation. I do not simply *have* a job: my occupation is a job because it is socially deemed worthwhile (society shapes work). Furthermore, my work is indirectly part of who I *am* (work shapes individuals)[1] and has repercussions on human and non-human others (work shapes communities and ecosystems). The hypothesis underlying the present chapter is that transforming the institution of work will

[1] "Work produces not just economic goods and services but also social and political subjects. In other words, the wage relation generates not just income and capital, but disciplined individuals, governable subjects, worthy citizens, and responsible family members" (Weeks, 2011: 141).

transform society as a whole. My objective is to find a social organisation of work that respects the values and principles of degrowth.

It is no secret that work is poorly conceptualised in the degrowth literature. Foster (2017) assails degrowthers for focusing on work time reduction without addressing the quality of work. Leonardi (2017) regrets the absence of theoretical analyses of labour issues in Kallis's *Degrowth* (2015) book and deplores two years later that "a solid perspective on labor" is "the missing link between Marxism and degrowth" (Leonardi, 2019: 56). Barca (2017a, 2017b) points to issues of worker alienation and exploitation at work, which she argues are being ignored.[1] And Hoffmann (2017) complains about a lack of coherence on the concept of work within the whole degrowth literature.

This is problematic. The objection that a steady-state or shrinking economy may not be able to provide everyone with a job has too often relegated growth-critical concerns to a black list of political feasibility. How to mitigate chronic unemployment for workers with low skills and education in a nongrowing economy? How to accommodate for changes in the size of the working population and adapt to labour-saving innovations? And what will happen to those currently working in sectors that are expected to wane or disappear? If degrowth is to be taken seriously, it must provide a satisfying answer to these questions. If work is a central part of the economy, a political economy of degrowth requires a critical understanding of work. Besides, degrowth would remain a poor utopia without an appealing vision of what work would be like in an alternative society.[2] This dual objective of understanding and reimagining work is the purpose of this chapter.

I have chosen the clock as a symbol because work is time and time has become work. "Work is time" means that any work requires time and, ultimately, is nothing but a particular use of time. By "time has become work," I mean that the way work is socially organised comes to shape the perception of time itself. For example, the advent of wage-labour regulated by mechanical clocks generalised a perception of time as abstract, quantitative, and linear (Thompson, 1967), which is only one time ontology among many.[3] It follows that the issue of work is not only about employment and production, but more fundamentally about how we perceive time and what this entails for social-ecological justice.

Just like the previous one, this chapter splits into four sections. I first set the terms of the discussion by defining what is work from a degrowth perspective. The three following sections detail three goals and thirteen objectives as well as a number of policy instruments to achieve them. I approach work with a threefold policy agenda concerning both its *quantity*, its *quality*, and its *narrative*. **Goal n°4: Work time reduction** aims to reduce working time for a diversity of ecological (lessen environmental pressures) and social reasons (work sharing to redistribute employment, safeguard health and well-being, and liberate leisure time). **Goal n°5: Decent work** strives for decent work, both in its content (what is being produced and why) and in its form (how is it being produced and by whom). And **Goal n°6: Postwork** challenges the

[1] In Barca (2019), she attempts to fill that gap by proposing a vision of degrowth and work made of the three elements of working-class environmentalism, eco-socialist Just Transition, and workers' control of production.

[2] In William Morris's utopian novel *News From Nowhere* (1891: ch.15: On the lack of incentive to labour in a communist society), the transformation of work was the "change which makes all the other possible."

[3] For example, Rosa (2013) differentiates between three main perceptions of time (philosophers would say *time ontologies*): "cyclical time" where past and future are fused together in an eternal return of the same; "linear and closed time" running from the past, to the present, and toward a pre-determined future; and "linear and open time," the one characteristic of modernity where the future remains uncertain.

centrality of market-coordinated, commodity-producing, paid employment in social life and constructs a less work-centred or postwork society.

Work from a degrowth perspective

But before that, I must clarify what I mean by the term "work." I do so in three steps making the difference between *labour*, *work*, and *employment* and their opposite, *play*, *leisure*, and *unemployment*.

Labour and play

Let us understand **labour** as *any activity requiring considerable time and effort with a specific purpose*. I labour when I plough my garden, clean my teeth, but also lecture my students, fill bureaucratic forms, or write these very words. Labour is task-based and aims at a specific outcome (clean teeth, filled form, enlightened students, finished dissertation).

This type of work has always existed and will always exist (hence the common appellation "anthropological work"). At this point, it does not matter whether I enjoy it or not (*pleasant* or *unpleasant*), whether I am forced to do it (*forced* or *voluntary*), reprehensible for it (*legal* or *illegal*), feeling guilty about it (*moral* or *immoral*), supported administratively to do it (*formal* or *informal*),[1] remunerated for it (*paid* or *unpaid*), or respected for it or not (*prestigious* or *degrading*). Care activities, domestic chores, and subsistence tasks, for example parenting, cooking, and fetching water, are forms of labour, but so is melting steel, fixing a computer, or performing Rachmaninoff third concerto on stage.

The activities that, even though they may involve time and efforts, lack a specific purpose are not labour but **play** (e.g. chatter, music, sex, games, contemplation, wondering about).[2] The essence of play is the absence of purpose: to just enjoy doing something for its own sake (even though it can be productive, e.g. fishing provides fish and playing the flute entertains others). If it is not fun, you are not playing (Andrews, 2006: 118).[3] So if I dig a hole in my garden to plant radishes, that is *labour* (time and effort with a specific purpose); but if I dig holes on the beach just for fun, that is *play*. If I read Adam Smith's *Theory of Moral Sentiments* to impress people, that is labour; if I do it for pleasure, that is play.

Work and leisure

Work is one specific form of labour. My labour becomes work when it is constrained in the sense of being determined outside of myself. This motivation can be moral (religious work ethic), social (peer pressure), political (civic duties), financial (earning a living), technical (operating a machine), or biophysical (subsistence). By constrained, I mean heteronomous in

[1] *Informal paid work* is "the paid production and sale of goods and services which are unregistered by, or hidden from the state for tax, benefit and/or labour law purposes, but which are legal in all other respects" (Katungi et al., 2006).
[2] I prefer the term "play" to "recreation" for that the latter is usually understood as the enjoyable activities one does when not at work – recreation is one form of play that is defined *against* work.
[3] "Play is time away from ordinary life. It's something that has nothing to do with real life – like a game. You can escape your usual emotions of anxiety, impatience, and irritation. You forget about efficiency, productivity, and the bottom line. You're free" (Andrews, 2006: 118).

Castoriadis' understanding of the term (Chapter 6), which means that I would not perform the task without the external incentive to do so.[1]

Work is more abstract than labour because it is tied to, not only my objectives, but also others outside of my own volition. If I want to write utopian novels but must teach economics to earn enough money to pay my rent, this is work. If I want to teach feminist economics but my faculty forces me to teach neoclassical economics, this is work. If I want to do absolutely nothing but I feel guilty of my sloth and then starts to attend to random chores, this is work too.

Yet, if most forms of work are heteronomous, not all of them are undesirable (contra Black, 1985). Autonomy is a spectrum and all collective forms of production require participants to surrender part of their individual autonomy for a bigger purpose (Gorz, 1983). This can be more or less voluntary depending on how democratic the organisation of work is. If a specific political duty has been agreed on by all, then it is more voluntary (even though compulsory) than if it had been enacted by a dictator. In a face-to-face participatory democracy (for example a small, self-managed cooperative), heteronomous work is less likely to be oppressive and exploitative even though it might remain alienating to some degree for the ones performing it. Think of it as a spectrum. At the most constrained end of the spectrum lies fully heteronomous or *forced work* and at the other end, fully autonomous or *self-determined work*.[2]

One specific form of work is **remunerative** or **paid work**, which is the one performed for economic rewards such as a wage, salary, or in-kind benefits.[3] One should differentiate *paid work* from *work-for-pay*, the latter corresponding to forms of paid work where the main or sole motivation is money (Marxian economists speaks of *abstract work* because its specific purpose is to earn money and not to satisfy a concrete need). Indeed, from a degrowth perspective, what is problematic is not the fact that people perceive remuneration but situations where they work only because of it and will therefore be more likely to let financial concerns surpass social and moral ones. I happen to be paid to write these very words, but that is not the reason why I do so[4] – it is *paid work* but no *work-for-pay* (and so financial concerns have no risk of trumping the purpose of my work, which is to write the best possible dissertation). Put another way, degrowth sees as undesirable forms of work that are solely motivated by financial incentives. Ford (2016b, italics added) builds on Danaher (2014) to define that type of work as "the *constrained* performance of some skill in return for *substituting your own ends with* an economic reward, or in the ultimate hope of receiving some such reward."

As for the opposite of work, I call it **free time** or **leisure** to avoid jargon, even though what I precisely mean is *autonomous time*. (This is the "realm of freedom" that Marx opposes

[1] Dewey (1916: 241-42 cited in Black, 2015: 162) puts it elegantly: "work is psychologically simply an activity which consciously includes regard for consequences as part of itself; it becomes constrained labor when the consequences are outside of the activity, as an end to which activity is merely a means." This is actually Black's (1985: 4) minimal definition: "work is forced labour, that is, compulsory production." "[W]ork is compulsory production, something done for some other reason that the satisfaction of doing it" (Black, 2015b: 81).

[2] Going back from the factory to household chores is not a shift from heteronomous to autonomous activities – "the only real autonomous activity is one that is neither an obligation imposed in the name of moral, religious or political principles, nor a necessity for survival" (Gorz, 1983: 70).

[3] Focusing on the economic aspect, Danaher (2014: 6) defines work, as "the performance of some skill in return for economic reward, or in the ultimate hope of receiving such reward." The author includes the second part of the sentence to cover situations of unpaid employment (e.g. unpaid internship and apprenticeships).

[4] Actually, a year later after writing this sentence in the comfort of my doctoral scholarship, I am now editing it without any income whatsoever. Paid or unpaid, the job is still the same – it is *concrete*.

to the realm of necessity.)[1] So leisure is the extreme end of the spectrum of autonomy where I fully determine my activity. This includes play such as discussing with my friends or swimming in the river, but also productive tasks such as building a kayak or writing short stories (which are not play because they have a specific purpose). Autonomous activities are never performed out of necessity – I paint my living room because I want to have it painted or because I find it fun to paint it (*play* is a sub-category of leisure), but not because I have to. This is the difference I make between leisure and voluntary work.

Employment and unemployment

The third conceptual step goes from work to **employment**. Employment is a specific type of work that is framed by an official contract – one could say *contract work* or more simply *a job*. So it is at least *formal* and *legal*, even though it can still be *forced*, *unpleasant*, *degrading*, *immoral*, and *unpaid*. The terms of the contract are set either between employee and employer (*contractual employment*) or by the employee alone in the case of *self-employment*.

The key difference between work and employment is the power relation between employer (order-giver) and employee (order-taker). What to do in work (and self-employment) is predominantly self-determined by workers. In contrast, what to do in employment is determined by the employer (even though not all employees face the same degree of obligation – think unpaid intern versus tenured university professor). The term itself is indicative enough: a worker is *employed* by someone else. Of course, it is not the contract in itself that acts as a tool of domination,[2] but rather the power relation in the setting of that contract, which, if unbalanced, can result in undesirable heteronomy.

Another difference is that employment is potentially more abstract than both work and labour. Although this is not always the case, an employment contract can be disconnected from specific, concrete tasks. One is paid to be a "polyvalent crew member" at McDonald's, which means – and I speak from experience – that the employer buys available time and effort from employees on a do-whatever-is-needed basis. (This is the "abstract labour" of Marxian economists which they see as alienating.)

In old capitalist economies like France, the ordinary form of employment is *wage-labour* or *waged work*, that is employment remunerated by a wage. This represented 88% of all work contracts in 2017 – most of that being permanent contracts (85%) among others types of arrangements such as fixed-term contracts (11%), apprenticeship (2%), and temporary work (3%) (Insee, 2018e). To this typology should be added unpaid forms of employment such as internships and volunteering.

Employment holds a particular importance in the collective imaginary because it is the form of work that is measured by economists, cared for by politicians, and desired by the great majority of people. What you are employed to do is the expected answer to the what-do-you-do question. The opposite of employment is **unemployment**, which is either *voluntary* (me

[1] From the Volume 3 of *Capital*: "the realm of freedom actually begins only where labour which is determined by necessity and mundane considerations ceases; thus in the very nature of things it lies beyond the sphere of actual material production […]. Beyond it begins that development of human energy which is an end in itself, the true realm of freedom, which, however, can blossom forth only with this realm of necessity as its basis. The shortening of the working-day is its basic prerequisite" (Marx, 1894: 959).

[2] A contract can be beneficial to workers, for example by limiting the number of hours worked or protecting them against dangerous working conditions.

spending the Winter season reading science-fiction novels in a cabin after finishing this thesis) and *involuntary* (me realising upon my return that few are the economics departments looking to hire a degrowth scholar).

There are several ways to measure unemployment. For example, the *International Labour Organization* considers someone unemployed if (a) they are at least 15 years old, (b) have not been working during a full week, (c) have been looking for jobs in the month preceding that week, (d) and are available to start work in the next two weeks. Using that indicator, 9.4% of the French population was unemployed in 2017.

An example of a broader measure of unemployment is the "*taux de non-emploi en équivalent temps*" (time-equivalent non-employment rate) developed by the magazine *Alternatives Économiques* (Duval, 2017). The difference between this index and the previous measure of unemployment is that it considers active people to be between 25 and 60 (instead of the usual 15-65) and that it corrects the share of part-time work in total employment by weighting it in proportion of how many hours are actually worked.[1] Using this indicator, Duval estimates a 27.2% rate of unemployment for the second trimester of 2017, which is three time the *International Labour Organization* rate.

Labour, work, and employment

Let us recap with two examples. Domestic chores, like cleaning one's dwelling or fetching firewood, are forms of *labour* for that they take time and effort and have a specific purpose (if one enjoys cutting wood for the fun of it, then it is *play*). They become *work* if they are performed under constraints (e.g. a waged personal house cleaner or duty-bound housewife), which can be more or less autonomous depending on how they are socially framed (fully heteronomous for the slave servants; only partly if democratically decided within housemates in the case of shared housing). It is *employment* if that work is set in an official contract (*contractual employment* if cleaning employees work for a firm), and it is *remunerative employment* if they get paid for it (e.g. *wage-labour*).

Second example: Am I working as I am typing these very words? Yes, in the broadest sense of *labour* because I am spending time and effort for the specific purpose of finishing this thesis. Lucky me, I happen to be formally employed by the university, paid to do so, enjoying the process, and respected for a task that I have initially chosen to do (*formal*, *legal*, *paid*, *voluntary, pleasant*, and *prestigious employment*). When my scholarship (from which I derive my *salary*) will run out, me typing these words will become *unpaid employment*, and if the university kicks me out, it will become *informal work*. If my supervisor forces me to write about a topic I deem useless, immoral, or that is considered illegal, then it will become *forced*, *immoral*, and *illegal work*. If I were to get bored by my topic, it could become *unpleasant*, and if I were to be found unlawfully guilty of plagiarism, the judgments of my peers might even make the work *degrading*. Even though most of it is work, writing a dissertation also involves productive play, for instance chatting with fellow researchers, which even though done for its own sake, contributes to improving my research.

[1] To illustrate, 13.7% of all jobs in 2017 were part-time contracts with an average working time at 56% of a full-time contract. Accounting for this, a part-time job only constitutes 56% of a job, and so 13.7% of part-time employment is only counted as 7.7% of a full-time contract equivalent (13.7 * 0.56 = 7.7).

Goal 4: Work time reduction

Work time reduction (hereafter WTR) is perhaps the most common degrowth demand.[1] To be precise, one should actually speak of *employment time reduction* for what is targeted is time spent in wage-labour and especially the one that is alienating, exploitative, and divisive.

Working time – just like work in general – is political. This statement runs counter to the view that all societies naturally move towards reducing the time spent in work. Even though historically, paid working time has been declining in most OECD countries, the slowing down of this trend in recent decades and the wide gap in work hours between, for example, the United States (1,785 yearly hours in 2007, 225 hours less than it was in 1950) and The Netherlands (1,413 hours in 2007, 887 hours less than it was in 1950), is evidence that other factors are at play (numbers from Bouvier and Diallo, 2010). In the EU, working hours have decreased from a yearly average of 3,200 at the end of the 19th century to around 1,700 at the turn of the millennium, remaining fairly stable ever since (Huberman and Minns, 2007).[2] But is 1,700 hours some kind of minimum, ideal volume of hours? The answer is *no*. An assumption that underlies the rationale of this chapter is that work is a socially constructed institution and so that the form it takes is never natural but always cultural.

From a degrowth perspective, the reduction of time spent in employment is desirable for three main reasons.[3] (1) The first reason has to do with equality and is often referred to as *job sharing*. If employment is limited and decreasing in volume, the working hours of the employed could be reduced as to allow the unemployed to increase theirs. (2) The second reason is ecological: hours worked could be reduced selectively to lower environmental pressures. Indeed, less work means less production, less commuting, less income (and so, less purchasing power and less consumption), less extraction, and less pollution. (3) Finally, shorter working hours could liberate time for leisure, education, care activities, and political involvement, thus improving health, well-being, justice, and democracy.

In light of this triple objective, not all forms of WTR are desirable. Whereas single objectives have been enough to motivate labour reforms in the past, the novel challenge of a degrowth-inspired strategy is to achieve them all at once. Put another way, degrowth aims to achieve a reduction of working time that is uniquely specific to its cause. Before considering how this may be done, let us explore each of the objectives one by one.

To share employment

The first charge against work-as-usual concerns its maldistribution. Un-employment and over-employment are not signs of a shortage and profusion of work but of a distribution failure.

[1] "shortening the working week is […] an essential element [of any degrowth plan]" (Latouche, 2010: 40 cited in Foster, 2017: 634); "reducing the extent of time in paid work remains the surest strategy to move an economy towards a steady state" (Gough, 2017: 191). The "iconic reform for the degrowth movement" (Levy, 2017: 316 cited in Strunz and Schindler, 2017: 7); "we are in favour of furthering the movement for a reduction of working time" (Ariès, 2009: 200, mt); "work reduction is one of the defining characteristics of a desirable macroeconomics beyond growth (Alexander, 2012: 360).

[2] In 2007, the French worked an average of 1,600 hours, 30% less than in 1960 (Bouvier and Diallo, 2010).

[3] WTR is desirable also from a pro-growth perspective (Golden, 2012). For example, if it allows a more "flexible use of the labour force" (hours can increase and decrease with demand, extended operating times) and boost labour productivity (well-rested, happy employee with more time for education and training) and therefore profits and competitiveness.

Some people are "overworked" (Schor, 1992), which generate both psychological (e.g. health effects, work accidents) and sociological damages (e.g. lack of time for others including help and politics), while others are either precariously underworked or even out of work. The diagnostic bluntly stated in Bertrand Russell's (1935) *In Praise of Idleness* is still with us: "overwork for some and starvation for others" with both sides suffering.

The solution to this problem is straightforward: less work for the overworked, more work for the rest. This does not imply that jobs must be created here and destroyed there but instead that the jobs that are currently available must be shared more evenly – "*Lavorare meno, lavorare tutti*" (working less so that everyone can work) as the Italian work-time movement would say.[1] This is not a problem of scarcity (not enough jobs) but one of justice whose solution lies in a more equitable distribution of paid hours. This procedure becomes crucial during a degrowth transition where households downshift their consumption of commodities, which reduces even more the amount of wage-work there is to be shared.

Job-sharing can happen either directly within one company or indirectly throughout the economy. *Job splitting* is when two workers split the tasks of one full-time job based on their personal competences (e.g. I teach part-time and you take care of the administration part-time). This type of contract is limited to certain jobs because it demands collaboration between the partners as to be able to do the job in its entirety. *Job pairing* is when two employees with similar skills take turns for the same job (e.g. I teach during mornings, some days of the week or every second week, and you do the rest of the time). Whereas the splitting or pairing of a job happens directly by design, indirect job sharing is uncoordinated and happens throughout the economy. Some people reduce their working time and others are hired to make-up for it without any intentional coordination between them.

Historically, job-sharing surfaced as an emergency measure to address cyclical unemployment. Several European countries such as Germany, Austria, Sweden, and Slovenia responded to the Great Financial Crisis of 2008 by reducing working time (Messenger and Ghosheh, 2013) for the same reasons the American President F.D. Roosevelt introduced the 40-hour workweek in the aftermath of the Great Depression. One can also point to the German "*Kurzarbeit*" (short-time working), the Belgium "*deeltijdse werkloosheid*" (part-time unemployed), the Canadian "*travail partagé*" (shared work), or the Danish "jobrotation" as examples of job-sharing schemes. In the Danish case, firms can let their employees go on paid sabbaticals in times of recession (70% of a full salary) at the condition that they are replaced by job-seekers. This is what de Spiegelaere and Piasna (2017: 62) call "defensive WTR policies," which they oppose to progressive ones aiming, not only to prevent dismissals, but also to create additional employment.

Not all forms of employment are equally desirable and so it matters what kinds of jobs are created in the process. For reasons that I will detail in the two other sections (*decent work* and *postwork*), the creation of marginal forms of employment is not desirable. This is the case for the "mini-jobs" (paid less than 450€ per month or restricted to three months) and "midi-jobs" (paid up to 800€) created during the 2002 Hartz reform in Germany; the "zero-hour

[1] Let us remember Keynes (1930) in his famous essay: "We shall endeavour to spread the bread thin on the butter – to make what work there is still to be done to be as widely shared as possible. Three-hour shifts or a fifteen-hour week may put off the problem for a great while."

contract" in UK (no minimum wage, uncertainty of hours); or the French precarious short-term contracts (*contrats à durée déterminée* or CDD).

The job-sharing strategy is based on two assumptions that some economists may find disputable. First, it assumes the existence of a fixed quantity of labour, a postulate that is dismissed by neoclassical economists as the "lump of labour fallacy." The argument runs as follows. There is no fixed amount of jobs to be shared, they would argue, because employment depends on labour cost per unit of output. If job sharing increases labour costs, which it often does by increasing fixed costs per employee (e.g. the cost of recruitment, training, or because social security contributions are paid on a per capita basis), employers will substitute capital to labour, which will decrease the overall volume of jobs. Additionally, a lower rate of unemployment will increase the bargaining power of employees and lead to wage inflation, which will be remedied by contractionary public policies, which also shrink total employment.

Yet, the lump of labour fallacy should not be heralded as natural law. Instead, what it tells us is that the employment effect of WTR depends on a broad range of factors. For example, setting social security contributions in proportion to wages can considerably reduce this employment counter-effect (Bosch and Lehndorff, 2001), and so would a shift of taxation from labour to resources. As for the inflationary effect, it depends on workers' purchasing power, which may well decrease if they trade wage money for extra time. Moreover, the contraction of output that usually worries economists is not problematic from the perspective of degrowth whose goal is in fact to downscale the production of GDP-measured goods and services.

Second, the job-sharing strategy relies on a specific definition of full employment. For neoclassical economists, full employment is the rate (usually around 4 to 6%) that is optimal regarding its relation with inflation, "optimal" meaning that it does not put upward pressure on wages – the so-called "Non-Accelerating Inflation Rate of Unemployment" or NAIRU. But let me posit a contrasting hypothesis, namely understanding "full employment" literally, as a situation where everyone who is willing and able to work can find a job. This broader understanding of unemployment includes what the French statistical agency INSEE calls the "unemployment halo" including those who wants to work but are not statistically measured as unemployed (1,5 million people in 2016) and those who are under-worked[1] (1,8 million in 2016). Including them, "full employment" is rather in the range of 1-2%, with these few points only accounting for the frictional unemployment occurring when people transition from one job to another.[2]

Three practical difficulties come on top of these theoretical disagreements. The first has to do with skills. After waiting for seven months to get an ophthalmologist appointment in Clermont-Ferrand (France), I am well aware that the already scarce hours of certain professions can hardly be shrunk. If the goal is to reduce unemployment, there is no point in shrinking the workweek of French ophthalmologists because there would be no candidates to fill the position anyway – similar situation for veterinarian and dentists (Dembo and Duchen, 2017).

WTR is not a solution to long term, structural unemployment, that is the mismatch between the kind of jobs being offered by employers and the skills, experience, education, or

[1] *Underemployment* describes the situation of a person who is "working fewer hours than desired [time-related underemployment] or at a job that does not match one's skills [skill-related underemployment]" (Goodwin et al., 2014: 184).
[2] This discussion is less relevant for countries with mass unemployment. The last time French unemployment went below 4% was 1976 and it has only rarely descended under 8% in the last three decades.

geographic location of potential employees – in France for the year 2017, 45% of all unemployment (1.2 million people) was structural unemployment (Insee, 2019b). There is no short-term solution to this problem, except to ensure that education and training is made available and attractive in the sectors that find themselves in shortage of skilled workers.

To affect unemployment, WTR must target jobs whose skills correspond to the ones of job-seekers. Looking at the qualifications of French job-seekers in 2016 estimated by Dembo and Duchen (2017), WTR for employees (38.4% of job-seekers being already qualified for the task) or skilled workers (22.4%) is more likely to reduce unemployment than WTR for farm work (only 2.1% of job-seekers being qualified) or engineers and executives (5.9%).

The second hurdle has to do with the tasks themselves. Job sharing is easier for certain trades where the work is easily dividable into shorter segments and can be performed in a continuous manner (e.g. factory line work, maintenance and cleaning, catering). But certain jobs can difficulty be cut into parts. An hour with a therapist that one has consulted for years can hardly be split between her and a stranger. Same case for university professors and police investigators. Ultimately, it is still possible but the sharing of certain jobs involves more costs (in communication and cooperation between workers on different shifts) than others. (As I will discuss in *Decent work*, this problem can be attenuated by redefining the tasks themselves.)

At last, it is undesirable for WTR to lead to a compressed workweek, that is a situation where official working time is reduced but without a proportionate lightening of the workload. Empirical studies, for example in UK (Kelliher and Anderson, 2008) and Australia (McDonald et al., 2009), have reported such cases of lower hours without an adjusted number of tasks.

This first objective is the least important for degrowth. Here I will quote Gorz (1994: 61) at length for that I cannot say it better: "Reducing working hours will have a liberating effect, and will not change society, if it merely serves to redistribute work and reduce unemployment." Gorz continues, anticipating the more ambitious objectives of work time reduction that I will present later in this chapter: "The reduction of working hours is not merely a means of managing the system, it is also an end in itself in so far as it reduces the systemic constraints and alienations which participation in the social process imposes on individuals and in so far as, on the other hand, it expands the space for self-determined activities, both individual and collective."

To reduce throughput

The second charge against work has to do with its ecological implications. From a biophysical perspective, work is not a producing activity but a consuming one: more work means more output on the production side, more purchasing power on the consumption side, and thus more environmental pressures overall. Instead of encouraging GDP to create jobs, it is here jobs that should be discouraged to downscale biophysical throughput.[1] Frey (2019, italics added) captures this concern with a question: "Provided current levels of carbon intensity of our economies and current levels of productivity, *how much work can we afford?*"

[1] Acting on working time for environmental reasons is not unprecedented. During the international oil crisis of 1974, and following a mineworker's strike, the British government of Edward Heath imposed a 3-day workweek with no possibility of overtime in order to save energy (the policy lasted about two months). In 2008, the American state of Utah imposed a 4-day workweek for public sector employees to save energy and cut greenhouse gas emissions (the total volume of hours remained the same as all the Friday work was spread over the other days).

Indeed, empirical studies converge in showing a positive correlation between working time and ecological stress. Looking at 29 developed countries over the 1990-2008 period, Fitzgerald et al. (2015) find that a 1% increase in working hours leads to a 0.4% rise in total energy consumption, a similar result to what they find for American states (Fitzgerald et al., 2018). For Knight et al. (2013), a 1% drop in working hours lowers energy, environmental, and carbon footprints by around 1.2 %. Looking at Sweden, Nässén et al. (2009) estimate that an increase/decrease in work time of 1% leads to an 0.8% rise/drop in energy use and greenhouse gas emissions. Rosnik and Weisbrot (2006) affirm that Americans could cut their energy consumption by one fifth if they were to match down European working hours. With a broader panel of 45 nations, Hayden and Shandra's (2009) results go in the same direction. On the basis of the evidence currently available, it seems fair to suggest that more work means more environmental pressures.

The environmental argument for WTR is fourfold.[1] Everything being equal, less hours worked means less production (*output effect*). If the decrease in working time comes with a cut in wages, it can also translate into less consumption (*income effect*). Less time in employment can enable a substitution of time-intensive activities for carbon-intensive ones, for example walking kids to school instead of driving them (*time effect*). Of course, the environmental impact of human work widely differs from one trade to the next, which is why I add a fourth *structural effect* to describe how a selective reduction of hours worked in nature-intensive sectors can lower aggregate throughput.

Output effect: labour productivity and working time

As I argued in Chapter 2, all economic activities are more or less directly coupled with the biosphere. When employment or labour productivity increase, so does the volume of goods and services produced, and with them resource use, waste, and pollution. Put another way, *more* work and/or *faster* work both put additional strain on nature. (At this stage, I look at work as an abstract, national accounting category, without differentiating jobs according to their environmental impact, which I will do soon after.)

In a steady-state economy, these two factors must counter-balance each other. Output remains stable if more hours worked meet a decrease in hourly productivity; and inversely, a rise in labour productivity leaves production unchanged only if working time declines as much. During a degrowth transition, however, output must itself decline, which means that labour productivity gains must be smaller than the WTR (or inversely, labour productivity losses must be larger than the increase in the number of workers). In the current context, labour productivity is declining, which is good news for the two objectives of reducing throughput and redistributing employment. But if it were not declining fast enough, one would then need to make labour even less productive as to allow a "debound effect" (Schneider, 2003).[2] Such effect can be expected from a transition from industrial, fossil-based machines to low-tech, convivial

[1] Likewise, Gough (2017: 187-88) distinguishes between two environmental arguments for WTR. A *scale* effect whereby workers prefer extra free time to pay rises, which then limits emissions; and a *composition* effect where less work would lead to behaviour changes towards a less carbon-intensive lifestyle. His *scale* effect corresponds to my *income* effect, while I borrow the name "*composition* effect" from him.

[2] One tendency might reduce labour productivity even more. If biophysical economists are right in assuming that labour productivity derives from the use of fossil fuels, then one should be prepared to see it drop during a transition to renewables.

tools (e.g. from places to trains, from tractors to animal power, from cars to bicycles, from cargo ships to sailboats).

Let me illustrate with an abstract example. A given sector has 20 million workers at 40 hours a week producing 1,000 units per year. Without productivity gains, the volume of working hours is proportional to output, so if the goal is to shrink the output of this sector by 50% (so 500 units), then working hours must simply be divided by half (20-hour workweek). (Of course, a one-time decline in working hours only impacts output once, and so for continued decrease, further reduction in working time would be required.) Let us now say that productivity in this sector suddenly increases by 10 %. To shrink output to 500 units, the workweek must fall down to 18 hours instead of the initial 20. In reverse, if productivity declines by 10%, the reduction in working time necessary to stabilise production will be only of 22 hours. My point is this: because changes in labour productivity differ widely from one sector to another, this means that WTR will have different output effects in different sectors.

Let us go from abstract to concrete and see how many hours this would mean in real life. Frey (2019) estimates the length of an ecologically sustainable workweek. He starts from the personal carbon budget of 1610 kg CO_2eq emissions per year that O'Neill et al. (2018) found as a maximum to limit global warming to 2°C, which he uses to calculate how much GDP per capita would be sustainable at current carbon intensity. Dividing this "sustainable GDP" by productivity measured in GDP per hour worked, he obtains a total number of sustainable worked hours, which he then uses to derive a weekly workload. Here are the results: in the OECD, the average full-time sustainable workweek would be 5 hours (compared to the current 40 hours). Looking at Sweden as an example of a relatively carbon-efficient economy, this number goes up to 12 hours (compared to the average 38 currently worked by Swedes).[1] This prompts the author to conclude that "if ecological sustainability requires an overall decrease in material consumption, a vast expansion in terms of leisure time and thus an increase in 'time prosperity' would be less of a luxury and more of an urgency" (Frey, 2019: 6).

Income effect: work-time and consumption-time

The ecological footprint of leisure matters too. Work time reduction and job-sharing strategies loose of their effectiveness if everybody flies to the Maldives to celebrate their newly-obtained holidays or if successful job-seekers spend their first wage on a new SUV. This is the Fordist trap[2] of the work-and-spend culture: WTR decreases production somewhere but leads to leisure consumption, which increases production elsewhere (the work time reduction of some entails the work time augmentation of others). This problem is constitutive of a society with only two roles, producers and consumers, each being defined as what the other is not. (Ultimately we will have to deal with this *income effect* with several other policies, e.g. basic income, job guarantee, and redistribute measures.)

The final effect on throughput depends on whether the *output effect* is larger than the *income effect*. Indeed, what is to be compared is the ecological impact of one hour spent at work

[1] The author carefully hedges against that result, pointing to the fact that it might in reality be lower when accounting for a 1.5°C target (instead of 2°C), the potential increase in productivity caused by shorter hours, and the fact that part of the reduction in working time might be used to create employment for the jobless (Frey, 2019: 7).

[2] Henry Ford (1863-1947) was himself the first to implement a five-day workweek with no decrease in pay (instead of 6-day) in his car factories in 1926 for this reason precisely, it gave workers the money and time to buy his cars.

compared to one hour of leisure. From a purely ecological-utilitarian perspective, a WTR is beneficial as long as the footprint of an hour of leisure is lower than the footprint of an hour of work. If a truck driver takes a day off to travel by plane in a far-away places, the impact increases; but if an hour off the schedule of the airline pilot translates in an hour added for the museum clerks or the restaurant staff, aggregate throughput decreases.

Is there a way out of the Fordist trap? A first solution would be to aim for an aggregate reduction in employment time. Of course this is impossible in a globalised economy; even within a single country, not everybody will reduce their hours at the same time, and so we are still left with a potentially damaging rise in leisure consumption. A second option is to lower wages as to limit purchasing power during leisure time. Since it is the highest salaries who generate most of the environmental pressures (Pullinger, 2011: ch.7), this seems particularly fitting for well-paid employees. Yet, it poses problems if the WTR falls unevenly on the work force, disproportionately affecting workers with low wages and precarious contracts, therefore exacerbating inequality and potentially, poverty.

Perhaps a more promising solution is to reduce the consumption of commodities and especially the ones with a heavy footprint. To promote the "low-impact leisure (in)activity of idling" (Gunderson, 2018: 3) or "time-intensive leisure" (Hayden, 1999: 68), that is pastimes that do not involve the purchasing of commercial products (e.g. spending time with friends and family, strolling the woods, visiting a museum, spending a day at the beach, writing and reading books, making art, cooking food slowly, or engaging in complex polyamorous relationships). Here, environmental standards, quotas, and taxes should disincentivise material consumption in favour of less nature-intensive satisfiers. The extend of the sphere of gratuity is also important. If there is no free access to a garden patch, a museum, or unpolluted woods nearby, or if friends, family, and lovers live far-away and light transport is expensive, then people will be left with Netflix, the mall, and no other options than to fly to see their beloved.

A false solution to avoid the income-effect is automation. If robots do not receive wages and so do not go in shops to buy things, they are made of scarce natural resources and often run on non-renewable sources of energy – e.g. 79% of all produced electricity in France for the year 2018 came from non-renewable sources (RTE, 2019). Automated jobs therefore start with a disadvantage to be green jobs. This is what I have showed in Chapter 2 by dispelling the myth of a service economy decoupled from nature. Automation is a false solution if it only displaces exploitation from people to nature (which is, in fact, also an indirect exploitation of other people either today or tomorrow).

Time effect: time-intensity versus energy-intensity

Even in relative terms, reducing average working time per employee while keeping the total number of worked hours unchanged might still reap certain ecological benefits. This is because "shadow work" (Illich, 1981), all the hidden tasks that are necessary to maintain the ability to work, has a footprint too. Commuting, eating out and relying on ready-made meals (Djupegot et al., 2017), along with different types of "compensatory consumerism" (Graeber, 2018: 247) to assuage professional frustration (e.g. far-away holidays, constant change of clothing, and oversized cars) add up to environmental pressures. By cutting on shadow work, a lighter schedule would come with a lighter footprint.

Nørgård (2013) argues that spending less time at the workplace enables time-intensive, low-energy activities like slow food or slow transport which come with a smaller footprint. Freed time can be used for less impactful forms of provisioning: e.g. mending clothes instead of buying new ones, growing food at home, walking or biking instead of driving, travelling by train rather than flying. Nässen and Larsson (2015) confirm that hypothesis in their empirical study of time use and consumption patterns within Swedish households where a 1% decrease in working time leads to a 0.7% cut in energy use and a 0.8% drop in greenhouse gases emissions. Same result for Devetter and Rousseau (2011) looking at French households: people who work hard, play hard and pollute hard.

This time effect, however, is perhaps the smallest of the four (reminder: *output* effect, *income* effect, and *structural* effect are the other three). Reviewing the empirical literature on the topic, Gough (2017: 188) affirms that the time effect is significantly smaller than the income effect. For example, Nässén et al. (2009) estimates the time effect linked to domestic energy at +0.06% for each hour off the work schedule; in comparison, it is -0.85% when considering both income and time effects. Besides, not all changes in composition go in the direction of reducing environmental pressures. King and van den Bergh (2017) speculate about a potential rising energy consumption at home where average energy intensity for heating and lighting premises is higher than at work, rising fertility rates if extra time incites parents to have more children, along with the spending rebound effects we already discussed.

Structural effect: *green hour and brown hour*

An hour worked for a car manufacturer or a flight attendant carries more environmental consequences than an hour worked for a university professor or a nurse.[1] Thus, another way for working time to affect throughput is to shift hours spent on producing nature-intensive products to less impactful ones. Let us call this a *selective work time reduction* for that it targets ecologically intensive forms of work. (This logic can equally apply to activities fostering social exploitation and I should add that this is about throughput but not only; certain sectors should arguably disappear regardless of their ecological footprint – e.g. advertising, armament, guard labour, along with all the other trades one would consider undesirable.)

Let us take one example just for the sake of illustrating the argument. In 2018 France, an hour worked in the transport sector caused 51.7 kilograms of CO_2-equivalent emissions while that number was 8.3 kg for an hour in agriculture and 2.1 kg for an hour in the service sector.[2] So a job in transport is 24 times more polluting than one job in the service sector. This means that reducing working time by, let us say, one third cuts 21% of total emissions if it applies to the transport sector but only 12.7% if it applies to the service sector. In an economy only made of a high-emission sector (transport) and a low-emission one (services), transferring 10% of employees from the heavy sector to the light one would reduce overall emissions by 7% while keeping the total number of hours worked constant (transfer half of the employees

[1] Of course, working hours is not the most effective variable when it comes to reducing throughput for that most emissions come, not for labour, but from the use of machinery. University professors also take planes to go to conferences and automated industrial work is environment-intensive even though it involves little hours from the staff.

[2] Total number of workers are from Insee (2018c – 1,463 million in transport, 754,000 in agriculture, and 20 million in services) and CO_2 emissions per sector are from Insee (2019d – 121 million tons of CO_2 per year for transport, 10 million for agriculture, and 69 million for services) – the emissions of the service sector being bundled together with the ones of residential consumption. I assume a yearly working time of 1,600 hours.

from the brown to the green and overall emissions will decrease by almost 30%). What this simple example shows is that environmental pressures can be decreased without reducing the total number of hours worked and that a selective WTR is more effective at reducing throughput.

At this point, the assiduous reader might be left wondering if I am here arguing for the green growth I concluded was impossible in Chapter 2. I am not. The numbers I have used in this simplified example ignore the complex interactions between sectors and the fact that the economy grows as a whole (e.g. the provision of services requires machines, energy, and workers, which themselves need to be transported). I still maintain that the unavoidable solution to address environmental breakdowns is to reduce production. If people work less in average but produce the same in aggregate, nothing changes. What I am pointing at here is that work time reduction can be part of a broader output reduction strategy.

Let us nonetheless continue. In terms of work in polluting industries, and as counter-intuitive as it sounds, society would gain in paying workers *not* to work. Indeed, there is little sense in creating green jobs only to repair the damages generated by brown jobs. With a social value of carbon set at €250 per ton of non-emitted carbon (France Stratégie, 2019), this means that, it would be more desirable for society as a whole to grant employees of the transport sector a €12,99 hourly allowance for *not* working (the equivalent for agriculture is €2 an hour and €0.5 in the service sector).[1] Assuming employees of the transport sector are paid at the minimum wage (currently €10,03 before taxes), it means that, only considering emissions, the sector is running at a societal cost. (If anything, this admittedly flawed calculation[2] has the merit of showing the inefficacy of a non-selective full employment strategy in terms of social-ecological justice.)

And the other way around, slowing down the provision of certain goods and services (commodified or not) is not likely to translate into decreased throughput if it is labour-intensive and requires little natural resources (think child care, elderly care, cultural activities, etc.). Essentially, this is the same rationale I have applied in the previous chapter to production: certain sectors should shrink and other expand. Because these green jobs have a particularly low labour productivity, this shift can be expected to be beneficial for both ecological sustainability and employment equality (I will return to that topic in the next section). But again, let us remember that regulating down the hours spent on certain undesirable job is only a means to an end. After all, it is the hours that should adapt to downscaled production targets and not the opposite (output adapting to a set number of work hours), which would uphold the problematic belief that employment is good per se.

To liberate time

One argument against work is that it occupies time that could be spent doing other things. An hour spent in employment is an hour not spent in education, spiritual, scientific, or artistic

[1] Here is another example. With a social value of carbon set at €250 per ton, a 2h15min flight from Paris to Stockholm with a plane filled with a hundred people that emits around 27 tons of CO_2-equivalent represents a loss in social value of €6,750. Assuming the plane is operated by two pilots and two flight attendants, this would come down at 784 euros per hour. In this, admittedly very simplified, situation, it would be more desirable for society as a whole to grant the four people flying the plane an allowance of €783 for *not* working.

[2] Of course, one should be careful. The social value of the services provided by transporters is not null; and it could anyway scarcely be inferred by their remuneration on the labour market (a neoclassical assumption I have criticised in Chapter 9).

creation, caring for others, and engaging in politics. If a 2% yearly target of WTR was to dethrone the one of GDP growth, the usual employee would gain an extra week's vacation each year. In light of this objective, work time reduction would be better termed *free time expansion*, this reminding of the short-lived French "Ministry of Free Time" (1981-1982).[1]

However, not all time outside of paid employment is autonomously determined. Unemployment is not liberated time[2] and neither is the one spent in domestic and care work or leisure time when only considered as the taking of a few hobbies[3] in between two work shifts. As I defined earlier, time is freed from work when it bears no relation whatsoever with employment or any other form of heteronomous labour; it is time that is available for anything to be autonomously determined useful, or as the famous anthem of the labour movement of the 1880s, time for *what we will*.[4] Let us then differentiate between *time poverty* (not having enough time to do what you want to do) and its opposite, *time prosperity* or *time affluence* (what the German call "*Zeitwohlstand*").

My claim is the following: the ultimate objective of economic organisation is to provide the sufficient means of satisfying fundamental needs in the least time-demanding way possible. In the spirit of degrowth, economic activities should remain a small island among an ocean of non-economic activities. In France, the average employee spends 100,000 hours *not* working during their lifetime, and this time has quadrupled in a century with significant increase in living standards (Dourgnon, 2017: 22). Let us not focus on a legal workweek of 35 hours but rather on its counterpart: a legal non-work week of 133 hours, which one should strive to increase. If anything, it is this capacity of liberating hours for non-work that should serve to assess whether an economy is successful or not, with Cyprus overtaking the United Kingdom with nearly twice as many red days per year (8 versus 15) and the Danes and Norwegians beating their Austrian and Polish neighbours in managing to work several hours less per week. An economy works if it *economises* resources, starting with time.

I identify three reasons that make an expansion of free time desirable from the perspective of degrowth. If working too much has detrimental effects on health, reduces safety at work, and negatively affects well-being through feelings of stress, working less might restore work-life balance and invert all these tendencies. Second, time wealth is unequally distributed and a selective WTR could reduce class and gender inequality. At last, free time is a precondition for political participation and the construction and maintenance of commons.

For health and well-being

[1] In 2003, a campaign organised the first "Take Back Your Time Day" on October 24th, the day when American had worked as much as Europeans do in a full year.

[2] To avoid any misunderstanding. In a work-centred society, unemployment is *not* liberated time. Rather it "represents a kind of no-man's land: a dead time, degraded by financial worries, social isolation and stigma" (Frayne, 2015: 38). "[T]he leisure of the starving, or the needy, is no leisure at all but a relentless activity aimed at staying alive or improving their situation" (Mattick cited in Srnicek and Williams, 2015: 118).

[3] Frayne (2015) recalls Adorno's (2001: 188-9) passionate rejection of the term "hobby": "I have no hobby. Not that I am the kind of workaholic, who is incapable of doing anything with his time but applying himself industriously to the required task. But, as far as my activities beyond the bounds of my recognised profession are concerned, I take them all, without exception, very seriously. […] Making music, listening to music, reading with all my attention, these activities are part and parcel of my life; to call them hobbies would make a mockery of them."

[4] Weeks (2011: 169) recalls the anthem of a labour movement from the 1880s: "Eight hours for work, eight hours for rest, eight hours *for what we will*."

Long hours strain both body and mind. In the literature, overwork has been associated with a variety of physiological and psychological ills (Kivimäki et al., 2015; Bannai and Tamakoshi, 2014; Artazcoz et al., 2009; Sparks et al., 1997; van der Hulst, 2003). There are direct effects such as injuries, exhaustion, and sleep deprivation (Dement and Vaughan, 1999), as well as depression; but also indirect ones linked to maladaptive behaviours such as alcohol abuse, lack of exercise, and unhealthy diets. Even though it depends on work intensity, long hours often come with stress and increase the likelihood of burn-out (European Agency for Safety and Health at Work, 2009).

McNamara (2004 cited in Lajeunesse, 2009: 169) speaks of a "compulsive work syndrome" and describes *workaholism* as an addiction whereby people believe all challenges in life can be solved by working harder, a belief that leave them "chained to the desk" (Robinson, 2014). Labier (1989) calls the people who are "hard-pushing, ambitious, successful people in the eyes of the world" and yet feeling "depressed, despairing, anxious and joyless" the "working wounded." Japan has become famous for its cases of "*karōshi*" (fatal cardiovascular attacks linked to overwork) and "*karojisatsu*" (work-related suicides) – for example Matsuri Takahashi and Miwa Sado, who committed suicides after clocking up more than 100 hours of overtime in a month. One can also point to the case of Moritz Erhardt, an intern at the London branch of Bank of America who died in 2013 after a 72-hour work shift (for more, see Day, 2013) or also the thirty France Télécom employees who committed suicide between 2008 and 2009 (for more, see Gazzane, 2016).

Most of these ills result from an overly fast work pace. People fall sick because they do not have time to take care of themselves or to rest properly. In their 2008 US survey, the *National Sleep Foundation* reported an increase in sleep deprivation, with a cocktail of negative consequences ranging from lowered work performance, increase in health issues, and harmful impacts on family life (NSA, 2008). This is a personal issue[1] but not only, and this because time-scarcity at the individual level starves a community from the labour time necessary to organise crucial care activities. Experiencing a lack of time is source of anxiety and fatigue, which makes the time-scarce unable to help others whose hectic lifestyles render stressed and tired. In sum, time scarcity becomes a problem of reproduction (Chapter 3). No need for empirical studies to claim something so evident that it was already perfectly captured by both Stevenson's *Apology for Idlers* (1877) and Overstreet's *A Guide to Civilized Loafing* (1934), namely the fact that the harried make unpleasant company and that the health of a community depends on the time that people spend in it.

Work time reduction can be a means, for example towards better health, but also an end in itself. Reviewing the literature, Albertsen et al. (2008) conclude that long working hours disturb work-life balance. The benefits in terms of well-being are strongly correlated to working conditions, and so working less reaps direct benefits especially for those who report to be unsatisfied at work. It is also more beneficial to people who are time-poor (10% of the British population according to Burkchardt, 2008).[2] Studying the impact of the French *35 heures*, Lepinteur (2016) reports an increase in well-being equivalent to a 20% wage increase.

[1] Let there be no misunderstanding, I say *personal* for that it is individuals who feel tired, but as I have argued throughout this chapter, all issues concerning work (including the sleeplessness resulting from overwork) are political issues.

[2] These two reasons explain why workers may want to work less. After reviewing surveys from the US, Australia, UK, and Europe, LaJeunesse (2009: ch.4) concludes that working-time preferences tilt in the direction of shorter hours.

Certain forms of WTR are more likely to result in improved well-being. For instance, making sure the day off is the same for everybody enables what Kallis et al. (2013: 1558) call a "social multiplier," when social activities are made possible by the fact that people are off the job at the same time.[1] For instance, even though I personally do not work on Monday afternoons, it is unlikely I would manage to organise a chess tournament at that time because most of my friends might be working. On that ground, a WTR that leaves flexibility to employees might be more beneficial for well-being.

For redistributing time wealth

Not all working time is equally worth being liberated. The schedule of employees who are dissatisfied with a job they find tedious, harmful, or useless should be lightened first. Of course, and as I will argue in *Decent work*, the long term objective should be to phase out such work. Yet, such process may be long, and in the meantime, reduced hours can offer stranded workers a relief from their drudgery. If employment should remain a choice, then it is those who have not chosen theirs who should, in priority, be able to work less.

Then, there are those who say that they are happy with their jobs and have nothing to gain from working less. Good for them. Those are most often holding highly-paid, secure, and enjoyable jobs – e.g. an executive being twice more likely to be satisfied at work than a farmer or 1.3 more than a manual worker (Dares, 2016). But reducing working time for the privileged is not only a means of freeing them, but also, and perhaps most importantly, of liberating the time of all the people whose precarious toil is necessary to enable the time-tight lifestyles of the rich. I am thinking here of the personal cleaners, nannies, gardeners, servers, Uber Eats cyclers and Amazon drivers, but also those who build time-saving devices such as electric razors, microwaves, and robot lawn mowers, as well as those who clean up the social and environmental costs of producing them.

It is a matter of equity in the distribution of time wealth: job sharing should not only redistribute available paid jobs but also the burden of unpaid, care work that today still fall predominantly on women and immigrants, at home and in other countries.[2] The dense schedules of affluent households generate an array of supporting tasks, that are either performed free of charge (e.g. duty-bound house-spouse) or via precarious employment (e.g. baby-sitting and child care, black market housecleaning) or outsourced to more disadvantaged countries (e.g. I save time by using a vacuum instead of a broom, but this means someone elsewhere has to spend time making the vacuum). Again this has to do with limiting the consumption of commodities, as purchasing a product necessarily means keeping someone into work.

Time must also be redistributed between genders. Today, women who have taken up paid employment are more likely to be working part-time than their male counterparts – four times more likely in 2017 for French employees (Abhervé, 2018).[3] This places them on an unequal footing in terms of career prospects, and ultimately, remuneration – in 2012, men still perceived 10.5% than women for the exact same working conditions (OdI, 2019: 40).

[1] This may require additional legislation, "policies might be necessary to generate the cultural conditions for a voluntary observance of the extra day-off, such as for example, a regulation of shopping hours or the planning of festivals and public (sport) events in the new day-off" (Kallis et al., 2013: 1563).
[2] In 2010, women in France perform 64% of household work and 71% of parental labour (Champagne et al., 2015).
[3] In France, 30.7% of women hold part-time contracts when it is only 7.8% of men (Abhervé, 2018).

Additionally, it is still them who perform the lion's share of unpaid domestic and care work – the so-called "double burden" (European Working Conditions Survey, 2015 cited in de Piegelaere and Piasna, 2017: 29). A shorter schedule for male employees could enable them to participate equally in household work while creating opportunities for women to either get into employment, increase their paid working hours (this would be a job-sharing between genders), or just use the time for what they will.

And what about automation? Automation is either feared as a threat to employment (e.g. Frey and Osborne, 2014) or celebrated as an instrument of liberation (Bastani, 2019; Frase, 2016; Srnicek and Williams, 2015). In the first camp, a well-cited study by Frey and Osborne (2014) predicted that 47% of all American jobs might be automated in the coming twenty years.[1] In the second camp lies dreams of a "fully automated luxury communism" (Bastani, 2019) in line with Bookchin's (1971c: 94) technology-led "toil-less mode of life,"[2] where one would "let the machines do all the work!" (slogan from the 1960s cited in Graber, 2018).

Regarding WTR, robots are welcome if they liberate time for humans, especially for dissatisfied workers. In the current context, however, it does so both unequally and unsustainably. It falls predominantly on the low-skilled low-pay workers most dependent on an income and less flexible in their ability to find another job – five times more likely to be automated according to Deloitte (2015). Moreover, it pushes the production possibility frontier (because machines are often more productive than humans) and increases throughput (because machines are made of materials and use energy). Add to this the fact that the benefits of this extra production are unequally split and automation becomes more of a bane than a boon.

For individual autonomy and participatory democracy

Free time is crucial for democracy and the more participatory political life is, the more time is necessary to make it function. Discussion and deliberation take time and so does the education and reflection necessary to make informed decisions. Quite paradoxically, it is precisely because everybody is all too busy working that a critical discussion about work has not yet occurred.[3] Again, this argument justifies WTR, even for the privileged few who cherish their busy schedules. Regardless of how one might enjoy it, long working hours are a threat to democracy.[4] And in reverse, shorter working hours could, if coordinated collectively and in advance, constitute a political project towards deeper forms of democratic governance.

Decommodification requires alternative modes of allocation, that is some form of participatory planning, which is time-consuming, especially if conducted via direct forms of democratic deliberations. For example, the set up and running of a local currency, a seed

[1] Now is not the time to discuss the accuracy of that prediction, but the study has been criticised for its methodology and other have arrived at significantly lower numbers – e.g. only 9% among OECD countries (Arntz et al., 2016). In the case of France, the consulting group Roland-Berger (2014) estimates that automation will affect 42% of jobs.

[2] "After thousands of years of torturous development, the countries of the Western world (and potentially all countries) are confronted by the possibility of a materially abundant, almost workless era in which most of the means of life can be provided by machines. […] a new technology has developed that could largely replace the realm of necessity by the realm of freedom" (Bookchin, 1971c: 93); "There is practically no industry that cannot be fully automated if we are willing to redesign the product, the plant, the manufacturing procedures and the handling methods" (ibid. 103).

[3] "Thus far every social revolution has foundered because the peal of the tocsin could not be heard over the din of the workshop" (Bookchin, 1971c: 130-131).

[4] This is not a blind ode to WTR. The hours freed from work will be spent doing whatever is deemed valuable in a given community, from yarn bombing and anti-migrant protests to meditation training and weapon fests. The transformation of work is only one piece of a broader cultural transformation.

commons, or a worker-recuperated company is time-intensive and could not occur without the work of volunteer putting the hours in. Although there is no guarantee that WTR will translate into more hours spent on these activities, it is certain that without liberated time, the organisation of commons is impossible. And this is also true the other way around. Without decommodified systems of provision, one cannot expect workers to liberate their free time from market consumption because they must "earn a living." The time spent by some in securing the availability of non-economic satisfiers (e.g. free seeds, cheap loans, sharing objects, fare-free spectacle) enables a further employment time reduction for others and so on – it is a virtuous circle of decommodification and employment time reduction.[1]

As I have argued in Chapter 6, collective autonomy requires individual autonomy, which itself relies on constant learning. "Learning" should be understood in the ancient Greek understanding of philosophy as cultivating a love of wisdom, and not only in the prevailing understanding of "education" as the process of being instructed knowledge and skills (as preparation for professional life).[2] Education takes time, and cultivating a love for wisdom takes even more time, a time necessary for the functioning of the type of democracy degrowthers dream about.

Policy instruments for work time reduction

Work time reduction (hereafter WTR) can take many forms, not all of them desirable from the perspective of degrowth. This policy bundle proposes a specific design for a degrowth-compatible WTR, that is one that is best adapted to the three objectives of sharing employment, reducing throughput, and liberating time. I do so by answering eight questions having to do with (1) the magnitude of the reduction; (2) whether it occurs at the level of days, weeks, months, years, or at the scale of a lifetime; (3) whether the decision to work less is taken individually or collectively; (4) at which levels it occurs and for whom; (5) whether it is voluntary or mandatory; and (6) who should finance it.

(1) The magnitude of the reduction

In the growth-critical literature, the desirable volume of hours one should spend in employment varies between a weekly 10 hours to about 32 hours.[3] For WTR to contribute, not only to the threefold objective above, but also to changing the role wage-labour plays in society, the

[1] This is actually the opposite of the current vicious circle of employment and consumption: we are told we should consume as to enable others to have jobs in order for them to consume. Degrowth demands a reversal of this dynamic: working less to construct alternatives to commodity consumption as to abolish the need to "earn a living."

[2] The *comptes de formation* (training accounts) introduced by the French government in 2015 stand for the latter and could be criticised for reducing learning to an instrumental process of work preparation (an argument I will explore in detail in the third goal of this chapter).

[3] In the degrowth literature: 10h per week for Ellul (cited in Porquet, 2003: 212); 10-20h for Nørgård (2013); 20h for Paech (2012, 2017), Weeks (2011), and Passadakis and Schmelzer (2010); 21h for the New Economics Foundation (2010); 20-25h for Tertrais (2006); 20-30 for Hickel (2017: 299); 20-33h in Felber's (2015) "Economy for the Common Good"; 25h in Victor's (2019) "Sustainable Prosperity" scenario (same for Jackson and Victor, 2019); 28h for Cochet (2009) and Alexander (2018); 30h for Cattaneo and Vansintjan (2016: 8), Koch and Fritz (2013), and D'Alessandro et al. (2018) in their EUROGREEN model simulations; and 32h for Ariès (2005), Kallis and R&D (2015), and Brugvin (2018). In other contexts, one can also remember the 3-hour day of Paul Lafargue (1883), the 4-hour day of Bertrand Russel (1932), or the 15-hour workweek of John Maynard Keynes (1930), along with the leisurely life depicted in utopian literature – e.g. 6-hour day in More's *Utopia* (1516), 4-hour in Campanella's *Citta del sole* (1602), 4 hours a day in Skinner's *Walden Two* (1948), 2 hours per day for Huxley's *Island* (1962), 20 hours per week in Callenbach's *Ecotopia* (1975), or 5-7 hours a day with 2-4 days off every 10 days in Le Guin's *The Dispossed* (1974).

reduction should be significant. But of course, the magnitude of the reduction depends of where it is implemented. What would be an ideal working time for degrowth in France?

The current legal workweek is 35h. A preliminary step would be to have this threshold be respected in practice. In 2018, the average working time among both full-time and part-time workers was 37.3 hours per week (Dares, 2019). If all employees – 25 million in 2018 (Insee, 2019e) – would lighten their schedule to the legal 35 hours, this would already free 58 million hours, the equivalent of 1,65 million extra jobs at 35-hour per week. Even more effective would be to focus on full-time employees who currently work an average of 40.5 hours (Dares, 2019).[1]

In terms of maximum legal workweek, the French legislation went from 48h in 1919 to 35h in 1998 (with two mid-points: 40h in 1936 and 39h in 1982). That is 13 hours off the weekly schedule in 79 years, a divide by four of the initial working time. Spread over the period, that is an average reduction of 10 minutes per year.[2] If one continues the trend between 1998 and 2018, this would mean an additional 3.2 hours off the workweek for a final maximum legal limit of around 32 hours (pushing until 2100, one would reach a weekly 18 hours). It would be naïve to assume that the reduction of working time is a quiet history of linear, gradual changes, but this is not the point. My point here is that the 32-hour workweek is not a radical proposal, it is the level France should have reached by following work-time-reduction-as-usual. The question that should puzzle political economists is: Why did the legal limit stop at 35 hours?

What would be the magnitude of a WTR sufficient to eradicate unemployment? Let us assume an idealised situation where reduced hours directly translate into employment for job-seekers and without productivity changes. In 2017, the French active population was 29.7 million, out of which 2.8 million were unemployed (Insee, 2017). With average working time (mixing both full-time and part-time) at 37.2 hours (Dares, 2019), bringing down that average to the legal workweek would save a total of 3.4 billion hours per year, the equivalent of nearly 1,86 million full-time jobs.[3] But there would still remain 940,000 job-seekers. To bring unemployment to zero, the currently employed must further decrease their working time by 4% (1.2 hours weekly and so a workweek at 33.8 hours). Said differently, in this simplified scenario, a daily 15-min nap taken by every employee off their 35-hour workweek would be enough to absorb almost a million people into full-time employment.

Now what would it be if the objective was to reduce throughput? The oldest record for the ecological footprint of France is 1961, a year when it was almost equal to biocapacity (1.35 Earths) and so arguably sustainable (Global Footprint Network, 2019). The average workweek in the 1960s was 45 hours (Bouvier and Diallo, 2010), compared to 37.3 in 2018 (Insee, 2019). Let us now calculate what would have happened to working time if all labour productivity accumulated over the 1960-2018 period had been translated into more leisure time. Hourly productivity has been multiplied by 2.75 between 1970 and 2015 (Piketty, 2017), which means the average employee produces 2.75 as much monetary value in one hour in 2015 than they did in 1970. If the choice had been to reduce working time while keeping production stable, the

[1] As to what to do with this specific tax revenue: "To avoid higher overtime wages flowing to a privileged class of workers and exacerbating income inequality, half of the overtime penalty should be paid to the government as a *workaholic excise tax* that could be used to abate the social costs of long hours" (LaJeunesse, 2009: 238, italics added).

[2] This is legal and not effective working time, even though the latter has followed a similar pattern. From 45.1 weekly hours in 1950 to 35.9 hours in 2006, so an average yearly cut of 9.8 minutes over the period, with most of the reduction happening in the last three decades (Bouvier and Diallo, 2010).

[3] To simplify, I am assuming the average worked time per year to be 35 * 52 = 1,820 hours (even though that number is closer to 1,600 in reality). So (29 700 000 * (2.2h * 52 weeks)) / 1,820 = 1,866,857.

workweek would have been divided by 2.75 over the period and the workweek today would average 16 hours. This is a bit higher than the sustainable workweek that Frey (2019) calculates for Sweden (12 hours), which probably means it should be lower (since Sweden is more carbon-efficient than France).[1]

The liberation of time aspect is more difficult to quantify but perhaps it is not even necessary. Cumulating the two previous estimations, the weekly schedule already loses 22.4 hours (3.4 hours for unemployment + 19 hours for throughput), which means a workweek brought down to 12.5 hours (this is one third of average working time today). These numbers are surely too rough to be taken at face value. The take-home message is that a WTR for degrowth is more than a tweak; for the sake of simplicity, let us say that it consists in cutting the legal workweek at least by half. Said differently, it means that the full-time of a degrowth society is the half-time of today.

(2) Day, week, month, year, life?

There are five main ways of reducing working time (de Spiegelaere and Piasna, 2017: 49): shorter working life (early retirement or longer education), shorter working year (career breaks, parental leave), shorter working month (e.g. 3 weeks on, 1 week off), shorter working week (e.g. three-day week-end), and shorter working day (e.g. six-hour day). From the perspective of degrowth, some of them are more desirable than others.

Shorter working life

A first option is to either lower the age of retirement or postpone the start of working life with, for example, longer studies or gap years for travelling. Neither of these two choices have gained much weight within the degrowth literature. Perhaps this is because the idea of a "working life" itself is based on the very representation of work that degrowth reproves, namely an on/off distinction between active employment and passive leisure. One may also argue that there is little sense in liberating time all at once at a certain age of life, which would unequally put care and political duties on the ones who happen to have time (e.g. elders and youngsters). Besides, this policy would have little effect on unemployment and may not be disruptive enough to challenge work culture.

Shorter working year or month

The second option is to include longer breaks between periods of employment, either for holidays, parental and sick leaves, sabbaticals, or education and training breaks – e.g. 1 year off for every decade for Felber (2015: 57). The most common form it takes is paid holidays, that can either be legislated or negotiated (e.g. minimum of 4 weeks of paid leave according to the 1993 EU Working Time Directive; 5 weeks in France). Another form is parental leaves (maternity and paternity), which can be extended to other forms of care, for example to support

[1] Baschet (2014: 188-95) performs similar calculations for France. He starts by removing jobs that would disappear in a degrowth society: remains only 5-8% of the hours worked in the service sector, 50% in the secondary sector, and all of them in the primary sector (he assumes no unemployment). His end result is between 12 and 16 hours of necessary work per active citizen (to which he adds an estimated 10-12 hours of commoning activities).

a sick relative.[1] A third form of work break has to do with training and education. Additionally to these three, one could imagine a number of other reasons why one would want to suddenly interrupt employment for a while (e.g. sabbatical to write a book, religious pilgrimage, taking care of a depressed friend, or enjoying the thrill of falling in love). The Belgium *Time Credit Scheme* and the Dutch *Life Course Saving* are examples of WTR via breaks.[2]

While André Gorz (1993) was particularly critical towards extra holidays,[3] breaks from work in general are perhaps not the most strategic WTR from the perspective of degrowth. This is because these are times-out outside of work that leave job culture unchanged. Of course, that does not make them undesirable. For instance, bringing paternity leaves to the level of maternity leaves is crucial for a redistribution of care tasks between gender. One could also imagine that such breaks be used for the newly organised duties necessary to run commons (e.g. breaks to start an alternative currency, organise a popular referendum, participate in a technological audit committee, help for the harvest in a Community Supported Agriculture scheme or in the construction of a new public space).

Shorter working week

The third way of reducing working time is to cut full days off the schedule. For instance, 3-day weekend for Srnicek and Williams (2015), Friday's off for Kallis et al. (2013), and 4-day workweek for Larrouturou and Méda (2016) and O'Neill (2017). In France, current labour legislation restricts Sunday work and stipulates that one cannot work more than 6 days in a week (with a minimum rest of 11 hours each day).

This option has several advantages. It cuts on "shadow work" (Illich, 1981) and lessens environmental pressures via a time effect (less commuting, reduced office opening hours). Out of different WTR scenarios simulated for the UK, King and van den Bergh (2017) conclude that it is the shorter working week that reaps the largest ecological savings. It is relatively simple to implement and keep track of, especially for workers who do not really count their hours or do not want to do so too precisely (definitely my case).

Another way of reducing the working week consists in adding red days (public holidays) where nobody is expected to work.[4] There are currently eleven in the legal French calendar[5] while there used to be 115 in medieval France (de Grazia, 1962: 89) and 38 before the 1789 revolution (Lafargue, 1883: 39). In 2014, the Movement of French Enterprises (Medef)

[1] In that spirit, Belgium employees can take up to 3-month breaks for childcare, care for the elderly, or for medical reasons while receiving a flat-rate benefit of about 350€ to 500€ per month (Mont, 2016: 132). In 2017, the European Commission proposed a new directive that would guarantee at least 10 working days of paternity leave and a right to 5 working days of carer's leave per year.

[2] The *Life Course Saving Scheme* was in place in the Netherlands from 2006 to 2012. By saving a percentage of their annual wage (12 %), this scheme allowed employees to finance an unpaid career break for up to three years at the time of their choosing and without penalty (for more, see De Spiegelaere and Piasna, 2017: 67-69). The Belgium *Time Credit Scheme* is slightly different, with three options to choose from: at any point during their career, employees can (a) take one full year off, (b) work part-time for 2 years, or (c) work 20% for 5 years.

[3] "holidays are a perfect example of a programmed interruption to active life, a period of pure consumption, unintegrated with everyday existence, doing nothing to enrich normal life with new dimensions, to give it an expanded autonomy or a content distinct from the professional role" (Gorz, 1993: 64).

[4] This does not mean that it should be forbidden to work. The logic should be to provide oases from economic life, giving people the options to step out of the economy for a little while. This goes in the same direction than improving time rights as to allow willing workers to work less.

[5] January 1st, Easter Monday, Labour Day, Victory in Europe Day, Ascension Thursday, Pentecost, Bastille Day, Assumption of Mary, All Saints' Day, Armistice with Germany, and Christmas. In Europe, the number of red days varies from as low as 8 per year for the United Kingdom and as high as 15 for Cyprus and Bulgaria.

proposed the removal of two days to promote economic growth and employment (in 2012, Portugal removed 4 of its 13 red days with similar justifications). I here propose to do precisely the opposite: adding new ones. Public holidays could vary from region to region, each celebration being rooted in the community's history.[1] Likewise, days could be declared off under exceptional circumstances, for example related to the weather (e.g. snowy days in Winter, heat wave in Summer) or a special event (e.g. referendum day, mourning after a terrorist attack, solar eclipse, or sport event). All of these red days would be a reminder that there are things in life more important than work.

Shorter working day

The last option is to alter the daily work schedule, for example, by proposing a 4-, 5- or 6-hour day.[2] Possible cuts in hours are endless: starting later or finishing earlier (for example to accommodate with school times), lengthening breaks (longer lunches to be able to cook or pauses), or even re-establishing intermissions like *la siesta* (the nap).

Advantages of working day reductions are manifold. Household chores being often a daily task, shortening the work day might facilitate the sharing of the "second shift" that is still predominantly performed by women (Eicker and Keil, 2017). It would also allow people to sleep more. On the negative side, it is the WTR most likely to intensify work as it is easier to squeeze a set number tasks over a shorter day than it is to do it over a shorter week or month (de Piegelaere and Piasna, 2017: 50).

A form of shorter working day that I find particularly appealing is *la siesta* (the nap), a midday break to rest and spend time with family and friends.[3] The *siesta* is a symbol of care. Not only respite as for the resting of a tired body and mind, but also a precious time to be spent with loved ones. Naps are also good for the planet; they are like Earth Hour where you "switch off for your world" as WWF puts it, except they happen not once a year but every day.[4] Naps are better than caffeine to keep up verbal memory, motor skills, and perceptual learning (Mednick et al., 2008). If breaks are allowed for smokers and coffee-drinkers, surely a 20-min power nap should be within the realm of the socially imaginable.[5]

(3) Decided individually or collectively?

A *collective* agreement on working time concerns everybody within either a region, a country, a sector, or a company (e.g. maximum workweek, red days, minimum paid holidays). An *individual* policy, on the other hand, is a voluntary decision by workers to work less, for

[1] There could be a *Blaise Pascal Day* all over Auvergne to celebrate science and philosophy, an *Astrid Lindgren Day* in Sweden for storytelling, days to celebrate the change of the season (Autumn day, Winter day, Spring day, and Summer day) like it is already the case in several countries (e.g. the Swedish midsummer), or harvest days where everybody would help out farmers to collect a specific food item (*Apple Day*, *Pumpkin Day*; possibilities are endless).

[2] An example is the Swedish 6-hour day trial. In 2014, the city of Gothenburg experimented with a 6-hour work day (without reduction in pay) among public sectors workers.

[3] This dissertation itself could have not been written without my daily 20-minute nap (that is 1,365 naps for a grand total of 455 hours, which represents 13 weeks at the legal French workweek, the equivalent of one fourth of work year). This is perhaps a form of action research – or one could say *nap-ction* research.

[4] Naps can rebound. Naps improve productivity (talking from experience), which has prompted companies such as Nike, Google, Samsung, and Apple to encourage their staff to nap.

[5] From the perspective of degrowth, the nap should remain a time-out from economic life, which means it should not be commodified. This means it should not require a $12,985 seat specially designed for naps (Zimmerman, 2018) or a specific "siesta salon" where people can sleep 20 minutes for 4€ as offered by the Spanish *Masajes a 1000* (Massages for 1000).

example the decision to work part-time. If working time is a political issue, then one should favour collective agreements on working time over individually-negotiated WTR.

Today, part-time work carries several disadvantages. It is female dominated and therefore a driver of gender discrimination,[1] concentred in low-skill-low-pay jobs, and comes with restricted career prospects[2] and precarious contracts (de Spiegelaere and Piasna, 2017: ch.1). Workers who choose to work part-time often do it because they are unable to find full-time job and not by choice – that is the case for one third of all part-time workers – 4.2 million people in 2011 – in France (Dares, 2013). Same situation for women whose caring responsibilities prevent them from being employed full-time (de Spiegelaere and Piasna, 2017: 59). Another issue with part-time work is that it is a WTR financed by employees, whereas as I will argue later, the funding of WTR should primarily fall on companies and the government. Of course, the status of part-time workers should be improved (perhaps following the Dutch model, removing hours-related criteria for certain entitlements and prohibiting discrimination based on working hours), but without a change in work culture, it will remain the half-empty glass of full-time work.

And this is why individually-negotiated part-time work is problematic from the perspective of degrowth. The notion of "part-time" carries an implicit normative judgment that one is only working half of what should be worked. Ideally, there should not only exist two work regimes (full-time and part-time) but a wider spectrum to fit the diverse aspirations of employers and employees.

(4) At which level?

Working time can be set at six different levels (de Spiegelaere and Piasna, 2017: 55-57): *supranational* (e.g. EU working time directive setting the maximum workweek at 48 hours); *national* (e.g. French 35 hours); *regional* (e.g. the 6-hour working day in the Swedish city of Gothenburg); *sectoral* (e.g. 35-hour week in the metal sector of Asturias in Spain); *company* (e.g. the 6-hour working day at Kellogg; the 4-day working week at Perpetual Guardian in New Zealand); and *individual* level (e.g. job-sharing contracts).

Although the supranational level would be the most effective in enacting WTR, it can be ruled out for pragmatic reasons having to do with feasibility. Also to be ruled out are changes at the individual and company levels. These are the current way of reducing working time, a bottom-up system that has not proven particularly effective, and if anything, not disruptive enough. Three levels remain. The national level should be the primary target of degrowth;[3] just like emissions, the government could legally introduce a decreasing cap of maximum working time. Yet, allowing for regional and sectoral variation enables a more selective reduction of working hours. One can, for example, imagine that WTR within industrial sectors should be more pronounced than WTR within the *Social and Solidarity Economy* sector.

[1] Across the European Union, 31.1% of working women hold part-time contracts when that number is only 8.2% for men; only 57.4% of women work full-time compared to 75.5% for men (European Commission, 2019). In 2011 France, 8 part-time workers out of ten were women (Dares, 2013).

[2] Part-time workers are discriminated during recruitment and for career advancement (Ewards and Robinson, 1999, 2004; Bell and Freeman, 2001). This is the "part-time wage penalty" decried by feminist economists (e.g. Bardasi and Gornick, 2018; McGinnity and McManus, 2007).

[3] A possible strategy would be to start by regulating hours in the public sector, hoping for spill-over effects to private firms (I will discuss this option in detail in the final goal of this chapter – *Postwork*).

This brings us to a crucial question: Who should be concerned by WTR? Should there be specific target groups? It depends on objectives. In order to redistribute employment, it should be the ones whose type of work fits the skills of the jobless. In order to reduce throughput, it should be the ones working in environment-intensive sectors and receiving high salaries. And in order to liberate time, it should be those who have not chosen their occupations, those who feel time-poor (and those whose work makes others feel time-poor), anybody who wishes to do more things outside of work, and eventually, everybody as to allow more active citizenship.

(5) Mandatory or voluntary?

A legal ceiling on worked hours should be mandatory, as any labour law is. This is also the case for paid holidays, sick and parental leaves, and other benefits. Giving the ability for companies to opt-out WTR would most likely lead to them opting-out, then preventing their employees from working less (same thing at the sectoral level). As for the forms that a WTR should take within that legal limit, it is ultimately workers themselves who should have full autonomy in setting the schedule (in dialogue with their employers, and in the context of a worker-owned, self-managed business model, as I will detail in next goal).

The effectiveness of a voluntary system is uncertain. The Dutch "Hours Adjustment Act" (2000) have proven successful and did manage to considerably change work culture, but this took time (Fouarge and Baaijens, 2004; Visser et al., 2011). Other systems have been less successful. This is the case of the Austrian "*freizeitoption*"[1] (2013) where only 8-10% of employees decided to receive extra time instead of extra money (Gerold and Nocker, 2015). The climate situation puts an extra pressure on the success of a WTR scheme; not only would it have to be effective, but it would have to be effective *fast*. (Let us remember here that WTR is only one aspect of a broader reduction of production and consumption.)

Public holidays provide an interesting case: Should one be allowed to work on a red day if one wants to? Preventing a willing worker is easily decried as an infringement of personal freedom. Yet, there is a case to be made that such *laissez-faire* could lead to positional/coordination problems. This precise problem is currently being discussed in France concerning Sunday work. In 2019, 19.2% of employees report working at least one Sunday each month (Dares, 2018). From a de-economisation perspective, one should not consider the right to work on Sunday only in terms of individual freedom to work. With the right to sell comes the pressure to buy. If certain days are to be kept outside of the economy, one must ensure both the right not to work and the right to not feel the pressure to buy. This means that the GDP economy should be closed for all and not only for those who want it to be.

So from the perspective of degrowth, Sunday should remain off-work.[2] Ideally, nothing should be bought or sold on a Sunday, this day remaining outside of the market economy. In fact, the WTR that I have described in this chapter aims to extend the Sunday logic to other days, like red days, Saturday, and even Friday – creating more temporary boundaries to limit

[1] The "*freizeitoption*" is an Austrian sectoral agreement from 2013 that gives the option to employees in the electrical and electronics industry to choose between a wage increase of about 3% or around 5 hours of additional leisure per month (Gerold and Nocker, 2015 cited in de Spiegelaere and Piasna, 2017: 58).

[2] I say Sunday in the case of France, but of course this applies to other days depending on culture (e.g. Friday in certain Middle-Eastern countries).

the spread of the commercial. Defending Sunday is crucial because it is easier than proposing to create new days off (the history of labour laws stands as evidence that WTR has never been a smooth and natural evolution, but rather a constant and violent social struggle).[1] The law of July 13th, 1906 declaring Sunday a day-off still applies in France, although it has been chipped by a number of exceptions.[2] The problem with exceptions is that they tend to widen, thus creating a positional rat race where *exceptional* workers (often the poorest)[3] compete themselves out of leisure.

(6) How to finance it?

How to finance working time reduction? There exist several options: increase labour productivity, decrease wages, take it on the profit share, and have the government finance it.

If WTR leads to proportional productivity gains, then nobody has to pay for it. But this win-win solution is only apparent. Relying on improved labour productivity made possible by extra use of material or energy shifts the burden to ecosystems – one could say, it is the biosphere that pays for the reduced hours. Of course, there exist "pure" forms of labour productivity (e.g. re-organisation of work, reducing fatigue, work-related accidents, burn-out, and absenteeism). And these seem particularly likely to happen with a daily or weekly WTR (and also in the case of job sharing), which could lessen or even cancel the output effect on environmental pressures. Yet labour productivity is undesirable if synonym with an intensification of work. Besides, if the employed become more productive, and assuming production remain constant, it would reduce possibilities for job-seekers to find employment (this is the work-sharing argument). Because degrowth aims at both a reduction in unemployment and in output, productivity gains is not the best way of financing WTR. Another way would be to extend operating hours (e.g. opening on Sundays, evening shifts),[4] which clearly goes against the objective of de-economisation.

Reducing wages is ecologically appealing but socially dangerous. Pushing down wages risks exacerbating poverty and economic inequality (because richer households have other sources of income than wages). Weeks (2011) demands a 6-hour day with no decrease in pay, arguing that any decrease in pay would mean that WTR becomes a luxury that only the most privileged workers can afford. This is also the stance of Srnicek and Williams (2015) who argue that maintaining wages while decreasing employment time is a way of remunerating unpaid care work. This is what prompts Kallis et al. (2013) and Larrouturou and Méda (2016) to oppose a proportional cut in wages, which they see as a redistribution among the working class from

[1] As one example among many, let us mention the Courrières mine disaster which caused the death of more than a thousand miners in Northern France on March 1906, and which was determinant in the voting of the law of July 13th, 1906, which declared Sunday as a day-off.

[2] Old exceptions include hotels, restaurants and bars, as well as shows. Certain sectors are also being granted exceptions (e.g. gardening and furniture shops; food shops can open until 13:00) while all businesses have 5 Sundays per year where they can open (they usually used them during sales). More recently, the Article 342 of the *loi pour la croissance, l'activité et l'égalité des chances économiques* (n°2015-990) created the International Touristic Zones (ZTI), which are allowed to work on Sunday.

[3] The argument according to which working on Sunday would be a free choice needs debunking. Such can hardly be considered autonomy if made under the threat of material poverty. The neoliberal discourse that calls upon the poor to "work more to earn more," as president Sarkozy exclaimed, is maladapted to a situation where the bulk of economic inequalities derive from wealth and not wages.

[4] For example, the Finnish "6+6 experiments" where the working day was reduced to 6 hours alongside an extension of operating hours to 12 hours per day (Anttila, 2005 cited in de Spiegelaere and Piasna, 2017: 54).

those who work to those who do not.[1] (A lighter option would be to freeze wages, but this only works with a rising labour productivity, which I have just ruled out.)

Even though leaving the bill to employers goes in the direction of a better distribution of surplus value between capital and labour (Chapter 9), it poses certain challenges. Firms could, in the short term, increase prices to avoid losses in profit. In the long term, the rising cost of labour may push employers to substitute machinery and natural resources for labour (the objective is to do the opposite), or even to delocalise abroad. On top of that, firms are likely to oppose the policy if they are the only ones paying for it. Let us not, however, forget the current situation: workers are contributing £29 billion worth of free labour to British employers every year simply by working unpaid overtime (Seymour, 2011). If only this money would be used to reduce working hours for the entirety of the British population in employment (32.4 million), and paid at minimum wage (£7.83 an hour), this would enable every employee to work 2 hours and 11 minutes less per week.

The funder of last resort for a WTR is the State. This does not necessarily mean a decline in government revenues as the savings from unemployment benefits and the other costs associated to joblessness might make up for the loss. Today, the French government directly spends a yearly €28,737 per unemployed person, without including the indirect costs of joblessness (Larrouturou and Méda, 2016). The cost of WTR should also be compared to alternative policies aimed at creating employment (e.g. CICE, reduction of contributions, VAT change, tax credits for domestic staff).[2] This money could be directly used via tax credits for companies that would hire new employees, thus reducing unemployment in a cost-neutral manner. In light of what I have argued earlier, a WTR should not be seen as a "cost" but rather as an investment in community health, democratic capabilities, and the ecological transition.

In reality, it can also be a mix of these.[3] One way is to integrate this policy within the broader fiscal strategy outlined in the previous chapter. For instance, high-wages could bear the brunt of the financial burden while low-wages are left off the hook – LaJeunesse (2009: 238) calls this a "solidaristic reduction of hours." Or certain types of companies (large, for-profit, shareholder-controlled) could be taxed more than others. Highly profitable firms could be expected to contribute more to the lightening of their workers' schedule as a way to acknowledge and pay back a time debt accumulated throughout decades of over-work.

From a degrowth perspective, work time reduction should achieve **3 objectives**:

- sharing employment;
- reducing throughput; and
- liberating time.

[1] Instead, they propose to finance the decrease working time with a proportional decline in profits – a redistribution from capital to labour. Although I agree with them (this point I also make in Chapter 10: *Transforming property*), it does nothing to address the *income effect* of a WTR, nor does it affect wage inequality.

[2] Jeanneau (2017) estimates the cost per job of the *CICE* to be between 143,000 and 285,000 euros, which he compares to the cost of a job directly created via *un emploi aidé* (state-financed job) which is between €7,000 and €11,000 per year. Hédon et al. (2019: ch. 3) compare the public cost per jobs of a number of policies: reduction of contributions, 1993-1996 (€20,000 to €40,000 per job); the lowering of VAT for restaurants, 2009-2011 (€150, 000 per job); the lowering of VAT for construction services, 2008-2010 (€260,000 per job); tax credits for domestic staff, since 1992 (between €39,000 and €228,000 per job).

[3] For example, the "5-3-3 agreement" in Belgium (1983-1984) where a 5% WTR was financed by a limited wage increase of 3% and a reduction in employer's contributions of 3% (de Spiegelaere and Piasna, 2017: 52).

A work time reduction for degrowth should:

- aim at reducing time spent in paid employment by half,
- take Friday off, introduce a 6-hour workday, a daily nap, national and regional red days, and work breaks;
- be decided collectively,
- be established at the highest possible level (most likely national),
- have upper limits as mandatory laws but leave the choice of which hours to decrease to workers, and
- be financed by a decrease in wage only for high-pay workers, company contributions, and a recycling of the current State's work-related expenses.

Goal 5: Decent work

Degrowth struggles for less work, but for better work too. Work-sharing should not be understood as a stand-alone policy, which would then be akin to "sharing the misery" among the most disadvantaged sections of the working class or re-distributing hours that perhaps should have never been worked in the first place. Just like its quantity, the quality of work matters. The question at hand is a daunting one: What kind of products, subjects, and social relations should be created in the workplace? While the direction of improving working conditions is easily set, defining precisely what constitutes *decent work* is more difficult.

In an ideal world where we are all university professors and solar panel engineers, working with caring colleagues, experiencing autonomy over our tasks and pride towards the fruits of our labour, this section could have well been skipped. But this is not currently the case. The opening of Kieran's (2004) account of working conditions in the 21st century is telling: "the world of jobs is characterized by stifling boredom, grinding tedium, poverty, petty jealousies, sexual harassment, loneliness, deranged co-workers, bullying bosses, seething resentment, illness, exploitation, stress, helplessness, hellish commutes, humiliation, depression, appalling ethics, physical fatigue, and mental exhaustion" (Hodgkinson writing in Kieran, 2004: 7).[1]

The term "decent" should not be understood as a level of alienation, discrimination, duress, humiliation, or exploitation that is tolerable. Nor should it be conceived as compensations in ping pong tables and company-sponsored holidays for prison-like working conditions. In this part, decent work is defined as work that is beneficial to the worker and to society as a whole. More precisely, is *decent* work that promotes autonomy, sufficiency, and care – I thus use the word "decent" as synonym for "respectable" or "appropriate" and in relations to the broader moral principles of Part II. Both the *how* and the *what*, the form (how

[1] Robert Anton Wilson (cited in Dean, 2016: 55) gives an equally poignant description: "most 'work' in this age is stupid, monotonous, brain-rotting, irritating, usually pointless and basically consists of the agonising process of being slowly bored to death over a period of about forty to forty-five years of drudgery."

one is treated) and the content of work (what one is doing) should be decent. Work should create both decent products and decent human beings.

Degrowth is not alone to desire decent work. "Decent work and Economic Growth" is one of the Sustainable Development Goals.[1] Since 1999, the *International Labour Organisation* has developed a Decent Work Agenda with four core standards and a framework of indicators associated with ten defining elements.[2] At the World Social Forum of 2007, a group of organisations launched the "Decent Work, Decent Life" campaign. The *European Commission* promotes decent work[3] and so does *The International Trade Union Confederation* which has made October 7th a "world day for decent work." The purpose of this section is to clarify what exactly is decent work from the perspective of degrowth and which policies would lead to it.

I summarise the degrowth demand in five objectives. The first two have to do with the *content* of work: (1) work should not detract from the common good, it should be socially useful and ecologically sustainable; and (2) the jobs that are collectively considered undesirable should be fairly distributed. The remaining three concern the *form* of work: (3) a job should never degrade the health or dignity of the person performing it. (4) As long as employment remains the main source of income for most, it should come with sufficient wages and benefits, as well as some degree of security. And (5) employees should exercise individual and collective autonomy in the workplace. I will now explain each one in details.

For socially useful and ecologically sustainable work

Decent work is socially useful and ecologically sustainable. For the latter aspect, I use the concept of "green jobs." There exist several definitions of the term, such as the ones of the International Labor Organisation and United Nations Environment Programme, Eurostat, or the European Commission.[4] What is common to all of these is that green jobs should contribute to improving ecological sustainability. In this chapter, I reduce green jobs to their sole ecological dimension (although I am aware that there have been efforts to add a quality-of-work dimension to the term, e.g. European Agency for Safety and Health at Work, 2013).

Hansen (2019) calls the opposite of a green job a "batshit jobs" playing on the American expression for madness: "to call this work mad does not mean that workers are crazy to make a living, but rather to point out that a crazy contradiction arises when making a living is also a part of unmaking life on many scales: becoming sick from pollutants, destroying local

[1] Some may criticise bundling employment and growth into a single goal (Chapter 4; also Rai et al., 2019).

[2] The four core standards are: (A) freedom from forced labour, (B) freedom from child labour, (C) freedom from discrimination at work, and (D) freedom to form and join a union and to bargain collectively. As for the ten elements: (1) employment opportunities, (2) adequate earnings and productive work, (3) decent working time (is defined *excessive* working time that exceeds 48 hours per week), (4) combining work, family and personal life, (5) work that should be abolished (child labour and forced labour), (6) stability and security of work, (7) equal opportunity and treatment in employment, (8) safe work environment, (9) social security, and (10) social dialogue, employer and worker representation.

[3] As indicated on the "employment and decent work" section of its website, the European Commission promotes "employment that is secure, pays a fair wage, ensures safe working conditions and provides for social protection and social dialogue, safeguarding rights at work."

[4] For ILO/UNEP: "work […] that contributes substantially to preserving or restoring environmental quality. […] jobs that help to protect ecosystems and biodiversity; reduce energy, materials, and water consumption through high efficiency strategies; de-carbonize the economy; and minimize or altogether avoid the generation of all forms of waste and pollution" (Renner et al., 2008). For Eurostat (2019), it is jobs in the "environmental goods and services sector," whose purpose is "to prevent, reduce and eliminate pollution and any other form of environmental degradation and to conserve and maintain the stock of natural resources, hence safeguarding against depletion." For the European Commission (2012: 4), "all jobs that depend on the environment or are created, substituted or redefined (in terms of skills sets, work methods, profiles greened, etc.) in the transition process towards a greener economy."

environments, [or] destabilizing the global climate." The strength of Hansen's concept is that it reframes work within broader social and ecological criteria, enabling a more precise differentiation than the broader "green jobs."[1]

The social usefulness of a job is more difficult to pin down. What should be considered inessential or socially damaging production? As I argued in Chapter 6, production is socially useful if it generates goods and services that can be used to satisfy fundamental human needs (Max-Neef, 1991). And it is socially damaging if it detracts from the satisfaction of those same needs. At this point, the working conditions do not matter. Making spamming algorithms, swindling vulnerable pensioners, or inventing chemical weapons can be done in the most desirable conditions (high-wage, in-hour massages, sport facilities, flexible work hours, secure contracts, paid holidays), but the outcome of such work is nonetheless undesirable. The same applies for gadgets and other dispensable luxuries: socially useful if they fulfil a fundamental need, and not if they just do not or even detract from that goal.

To summarise, this leaves us with four types of jobs: *decent jobs* are both socially useful and ecologically sustainable (e.g. solar panel engineer); *green jobs* are ecologically sustainable but socially problematic (e.g. waste picking, recycling electronics, working in biofuel plantations); *brown jobs* are socially useful but ecologically unsustainable (e.g. flight attendant); and *indecent jobs* are neither socially useful nor ecologically sustainable (e.g. high-speed trading intern programmer, cleaner of a Chanel's front window).

Decent work socially useful and ecologically sustainable	Green work socially problematic but ecologically sustainable
Brown work socially useful but ecologically unsustainable	Indecent work socially problematic and ecologically unsustainable

This typology should not be taken too seriously. In fact, from a social-ecological perspective I would argue that *brown work* is necessarily *indecent work* for that disruption of the biosphere has consequences on other humans either elsewhere or in the future. As for *green work*, one could argue that activities that are socially problematic breed their own potential for ecological exploitation in other spheres (i.e. social exploitation rebounds into an ecological one if it creates a class of careless affluent consumers). But the main message remains: work has social and ecological consequences, these two elements never being completely separate.

To redistribute undesirable jobs

But who will remove the garbage? There is work that is socially necessary but that nobody wants to do.[2] Graeber (2018: 14) calls them "shit jobs" for jobs "involving work that needs to

[1] "we cannot understand what's 'batshit' about work simply by looking at *what* is produced or extracted. We also have to look at *how* this happens and what economies it helps propel. Even renewable energy production can be 'batshit' if it feeds the ever-increased energy needs of capitalist production without replacing fossil fuels. […] Sometimes environmental degradation is essential to the task, sometimes the task could be done differently, and sustainably" (Hansen, 2019, italics in original).

[2] A quick online search for the terms "worst jobs" brings telling results: customer service advisor, telemarketer, slaughter house worker, promotional mascot, traffic warden, animal food taster, portaloo pumper, road kill remover, street cleaner, garbage collector, prison ward, animal masturbator, sewer cleaner, crime scene cleaner, guard at Buckingham Palace, armpit sniffer, grave digger, paint research scientist, professional line stander, golf ball diver, dishwasher, tech support, night clock clerks, bank teller, miner, fast food and short order cook, logger, pest controller, feet fixers, embalmer, sex worker, spam programmer, organised beggar, scam mail writer.

be done and is clearly of benefit to society" but where "workers who do them are paid and treated badly." I will go a step further than Graeber: any work that is objectively unpleasant or subjectively scorned qualifies as an undesirable job (e.g. night work,[1] exposure to dangerous chemicals, extreme weather conditions, repetitive tasks, physical workloads, but also anything that is disrespected by the community like collecting garbage, cleaning toilets, and inspecting for tickets in public transport). It seems fair to assert that no-one would, out of their own volition, decide to be a crime scene cleaner, bury people, or only work night shifts (or if such people exist, they are exceptions). Yet, crime scenes do need to be cleaned, people buried, and many services provided at night time, for example in hospitals and fire stations. How should one then distribute these necessary yet undesirable jobs?

A perhaps too easy answer to this question is automation. Let robots clean toilets and care for seniors. One could discuss whether that future is already in sight, but I do not think that is even necessary. This strategy is only displacing the problem because, regardless of technological advances, there will always be *relatively* undesirable jobs, and so the question of who should do them will remain. Actually, automation is dangerous if it fuels an end-of-work narrative that assumes that the work issue will just wither away (e.g. Rifkin, 1995). But in the meantime, it is not robots but the worst-off who cycle Deliveroo bikes, clean swimming pools, and collect garbage.

Second option is the market. This is the current mode of allocating shit jobs and it performs badly. Dares (2015) lists the ten jobs with the lowest pay in France for the year 2013: domestic staff, waitstaff, cooking assistants, cleaners, home helpers, shop assistant, chambermaid, school supervisors, polyvalent helper for schools, and nursery assistant. These cover 2.3 million workers earning a median wage ranging from 650€ to 846€. What is striking about this list is that all of these jobs would be considered difficult in terms of effort.[2] Even more so because many of these jobs find themselves in another list, this time of the fifteen jobs least favourable to well-being (Dares, 2016). So not only are these workers physically toiling, but they are also psychologically suffering. The abnormality of today's labour situation is this: Why are the ones with the shittiest jobs paid the least?

Oddly, the current system handles undesirable jobs differently from the desirable ones. The distribution of dream jobs (surgeon, president, popstar, and astronaut) is meritocratic while the distribution of shit jobs is wage-based. Result: it is those who are most vulnerable who do the dirty work. Micro-jobbing is a good example of how a market allocation of work reinforces inequality. I doubt that people tagging ISIS screen grabs of beheadings for 10 cents (USD) a picture on Amazon Mechanical Turk (Reese and Heath, 2016) or offering to wait in line (available on Task Rabbit) are well-off. (In France, it concerns 260,000 people who have neither a status nor social protection – le Ludec, 2019.) My guess is that those desperate enough to take

[1] Night work is a good example. In 2012, 15% of French employees worked after 21:00 (Foulon, 2014). "Shift Work Disorder" is recognised by the International Classifications of Sleep Disorders as a chronic health condition resulting from working times. Shift workers are more prone to an array of illnesses (Drake and Wright, 2011; Folkard and Tucker, 2003). For that reason, the International Agency for Research on Cancer has classified "shift work that involves circadian disruption" as a potential human carcinogen (Stevens et al., 2010). Drowsiness increases the likelihood of accidents both on the job and during commute (Barger et al., 2006). A study found that medical residents with long hours during the night reached the same driving impairment out of fatigue than drunk people (Arnedt et al., 2005). Work shift can lead to sleep disturbance, sometime lasting months or even years after the work has stopped (Drake and Wright, 2011). Shift work also negatively impacts family life, relations among employees, and well-being in general (Bambra et al., 2008).

[2] Another striking fact is that 85% of these low-pay jobs are performed by women (Dares, 2015).

on these tasks have already reached the bottom of the status pit. These workers suffer from a double deficit: not only are they disrespected for the work they do, but their low pay is also a factor of discrimination.

An alternative to both the market and automation would be to allocate these tasks politically, and more precisely, democratically. For example, the jobs nobody likes could be done in rotation in the same way a community sharing a building would organise the emptying of the garbage. While this is ideally best organised at a face-to-face, municipal level, the government could give momentum to such initiatives by requiring certain taxes to be paid, not in money, which advantage the ones who have a lot of it, but in time, that is in the form of community services (more in Chapter 11 about this proposal). Time-based taxation falls equally on all regardless of levels of income, and could be applied to a variety of undesired tasks – a garbage collection duty, teaching duty, gardening duty, etc. What makes sense at the level of the household or the commune (equal sharing of undesirable tasks) should also apply at the level of the city, region, and nation.

Each of these three strategies have its own limits, and so perhaps the answer should be a mix of these. Automate what is technically possible within the realm of what is ecologically sustainable; attribute politically what is culturally acceptable and feasible in practice; and for undesirable jobs that remains, make sure that the people performing them receive an above-average remuneration. This is already the case for certain features of indecent jobs; for example, work on Sunday or on one of the eleventh days off (the first of May) must be paid double and night shifts are paid between at 110 to 160% of the normal wage. What should be done is to extend this logic to a longer list of conditions considered indecent, not only having to do with the conditions of the work, but also with the work itself and how it is perceived socially.

For health, safety, and dignity

The Article 31 of the European Charter of Fundamental Rights states that "every worker has the right to working conditions which respect his or her health, safety, and dignity." The *health* and *safety* aspect is clear: the workplace should not be a place of suffering, either physical or psychological. This means avoiding situations of overtime, unpredictable schedules, time pressures, harassment, and dangerous working conditions. These situations are unfortunately commonplace. Concerning time pressures for example, 32% of workers in service and industrial sectors are in situation of *job strain*, when one lacks resources to fulfil the tasks required of them (Dares, 2019, data from 2017).

The *dignity* aspect includes health and safety but also many other things. Bolton (2007) defines two "dimensions of dignity," one objective and the other subjective. Dignity *at work* has to do with the "structures and practices that offer equality of opportunity, collective and individual voice, safe and healthy working conditions, secure terms of employment and just rewards." Dignity *in work* has to do with "interesting and meaningful work with a degree of responsible autonomy and recognised social esteem and respect."[1] The intern who carries unpaid work for a cause she feels passionate about has dignity *in work* but not *at work*; and the

[1] Of course, no job is degrading in and of itself. A job is considered degrading, difficult, or shameful in relation to other potential jobs one could have done instead, which depends on a complex social context. Everybody cut their nails without experiencing it as a shameful practice. Being paid to cut other people's nails, however, is a different matter.

situation is reverse for someone with a well-paid, respected, secured and yet, useless job. Low-pay workers in an American poultry plant who are forced to wear diapers because they are denied bathroom breaks while working on an assembly line have neither dignity in work nor dignity at work (Oxfam, 2016).

An important aspect of dignity is *agency*: having powers to function, being trusted and taken seriously (Sayer, 2007). Ultimately it has to do with respect from oneself and others: "it involves workers being respected as people and not being treated merely as means to others' ends, being allowed autonomy and not having others take advantage of their vulnerability, being trusted to act responsibly, being taken seriously and listened to, and having types of work which are not themselves demeaning" (ibid. 17). Dignity is more difficult to preserve for individuals who are discriminated based on class, gender, race, or anything else. Paying a female worker 10.5% less than her male colleagues for equal work erodes her dignity (OdI, 2019: 40).

Another aspect of dignity is purpose. "Could there be anything more demoralizing than having to wake up in the morning five out of seven days of one's adult life to perform a task that one secretly believed did not need to be performed, that was simply a waste of time or resources, or that even made the world worse?" It is with this sentence that Graeber (2018) opens his book on "bullshit jobs," which he defines as "a form of paid employment that is so completely pointless, unnecessary, or pernicious that even the employee cannot justify its existence even though, as part of the conditions of employment, the employee feels obligated to pretend that this is not the case" (pp. 9-10).[1] It remains uncertain how many bullshit jobs are out there. Graeber (2018: 6) estimates it could be as high as half of existing jobs, which if terminated could enable to reduce the workweek to fifteen or twelve hours.

Graeber is not the first to notice such a trend. In 2005, Bolchover wrote a book about "the living dead," describing the life of people who do absolute nothing at work except looking busy, to the point of being hardly noticed when they quit or die. "Their working lives are mindlessly boring, utterly pointless, and without meaning, their abilities are utterly wasted. Their home lives might be happy and fulfilled but at work they are the people that time forgot. They contribute nothing. They are the Living Dead" (Bolchover, 2005: 2). Fleming (2017: 140) describes work as a "theatre of loss," a "melding of economic pointlessness and existential sacrifice." Paulssen (2014) calls "empty labour" the time spent by employees not working at work. One could also speak of "boreout" or the boredom-burnout syndrome (Werder and Rothlin, 2007).[2]

Let us look at a practical example of indecent work. In their documentary about difficult working conditions, the French journalists of *Cash Investigation* (2017) looked into working conditions at a *Lidl* warehouse (*Lidl* is a German global discount supermarket chain). Hours are long (often 7-hour days), breaks rare, and the physical intensity of the tasks (between 6 and 8

[1] Writing this, I am myself confronted with such a bullshit job. Two weeks ago, I received a call from an insurance company asking whether I would be interested to purchase insurance for the Volvo I was about to buy. Having never bought – or even thought about buying – a car, I told them it must have been a mistake. (These companies buy personal data from websites, in this case second-hand car selling platforms.) Aware that it was a mistake, the person on the other side of the line said they would remove my number from the database. But wait. I have been called by this company 17 times since that first call, every time with a different young-sounding person on the line trying to persuade me to buy insurance for my non-existent car. While this became quite bothersome, my annoyance pales in comparison to the one of these unlucky employees who are paid to try persuading people to buy something they do not need.

[2] Difficult not to think about the famous May 1968 graffiti: "We don't want a world where the guarantee of not dying of starvation brings the risk of dying of boredom."

tons of products carried during a one-day shift) comes to threaten the health of workers. As for the dignity aspect, the operators of the *Lidl* warehouse are equipped with a technology that threatens their autonomy. Imagine a simple device including earphones and microphone that gives you orders regarding which products to pick up at a pace set in advance. For the sole purpose of increasing productivity gains (around 15 %), this system makes employees feel "dehumanised" and reduced to the status of a "walking pair of arms at the mercy of a robot" (these are the words of the workers themselves, Cash Investigation, 2017, mt).

But let us take a broader case. Should there be personal cleaners in a degrowth society? The answer is likely to be *no*.[1] As Sayer (2007: 26-27) points out, there is a difference between *servant work* where someone merely outsources a task they could have done by themselves (e.g. cleaning or baby-sitting) and *service work* where one requires the specific skills of a specialist (e.g. gardening or dentistry). Even in the cases where servants take pride in their work, one could argue this dignity is based on – and reinforces – some form of domination. A good rule of thumb to determine whether a task is likely to be a source of dignity or not is to ask children whether they would like to do it as a job when they grow up. Although this is a pure guess, I would venture in saying that not many children grow up dreaming about becoming personal cleaners, and so in a degrowth society, people will have to clean their own toilets.

Does automation contribute to decent work? It does if it saves on effortful and difficult labour while contributing to produce socially useful and ecologically sustainable goods and services. In a report conducted for the UK, Deloitte (2015) argues that not all jobs are as likely to be automated. Looking at their list, the top 10 of the most likely to be automated (> 95% probability) are jobs that should not be missed (e.g. tele-marketer, personal assistant, sales administrator, insurance company worker, local administrator, or receptionist). As for the ones least threatened by automation, one finds more pleasant (and arguably useful) occupations like therapist, bartender, professor, nurse, pharmacist, social worker, among others. My point is that what is being automated are jobs that should not exist in the first place.

And even, indecent jobs are rarely perfectly automated away. Machines do require the supervision of people who may be working in indecent conditions – e.g. click workers on *Amazon Mechanical Turk* being paid pennies to train Artificial Intelligence machines (Reese and Heath, 2016). A risk is that jobs that should have never been performed in the first place starts to be automated. Such situation will even be worse because, unlike workers, robots will not complain about it, and so these useless or/and harmful activities will continue unchallenged.

For fair wages and security

There is inequality not only between the under-employed and the over-employed but also between the under-waged and the over-waged.[2] Certain wages are too low and sustain a poor "precariat" (Standing, 2011) and others are too high and sustain a class of over-consumers. At the core of this problem lies one of the fundamental question of political economy: Which factors should determine remuneration? Why should football players be paid more than toilet

[1] Of course, I am not including here the people who, unable to clean their dwellings, should receive assistance.
[2] This precarity also exists among self-entrepreneurs, especially *micro-entrepreneurs*. Bertran and Théron (2019) estimate that the median monthly income of these workers at 260€ in 2016 (this can be explained by the fact that 40% of these businesses have no activity whatsoever).

cleaners? Why should women be paid less than men? Why should nurses in Myanmar be paid less than nurses in Switzerland?

The question of wage-setting is tied to a broader question of political economy concerning the origin of value. Again, from the perspective of degrowth, the market is not an option to socially validate levels of remunerations. In other words, people's salary should not be based on their capacity to generate exchange value via the production of commodities.[1]

An alternative would be to base remuneration on time and effort. The time aspect is familiar to all of us, and the past and on-going struggles for minimum wages are going in that direction. As I have argued in the previous chapter, there should be both minimum and maximum levels of remuneration for the use of an hour of human life, regardless of what it is being used for and whose hour it is. It is crucial to understand that the time to be remunerated is not working-time but *time-at-work*, that is not the actual minutes spent on production but the entire time where workers are making themselves available for production. The British "zero-hour contracts" that pays by the minute are dangerous for that they tend to only remunerate production and completely ignore reproduction – e.g. they pay for work but do not pay the naps even though naps are necessary for work.

The second aspect is more complex: Based on which criteria should wages fluctuate between these two limits? In their *Parecon* model (e.g. Albert, 2006), Albert and Hahnel propose that remuneration should be based on *effort*. Their definition of effort is broad and includes long hours, tasks that are unpleasant, laborious, dangerous, unhealthy, or ungratifying. This leads to a seemingly uncontroversial situation where "those doing the most onerous, harmful work would be highest paid; those doing the most pleasant and intrinsically uplifting work would be lowest paid" (Albert, 2006: 115). In practical terms, they envision each job to be given an "effort rating" in the form of a percentage multiplier that would determine whether workers should be remunerated above or below the social average.

In France, the instrument closest to the goal of measuring effort is the "*compte professionnel de prévention*" (previously "*compte de pénibilité*").[2] This is a point system filled by the employer recording difficult working conditions including night work (between 00:00 and 05:00), shift work, repetitive and fast-paced work (15 moves under 30 seconds or 30 moves under a minute), work in hyperbaric environments, extreme temperatures, and high noise levels. The points can then be used by the employee to either (a) get access to training to transition to a less arduous job, (b) reduce working time without wage loss, or (c) retiring earlier (but no earlier than age 55). As it is today, this is a minimal protection. Getting exposed to several risk factors for a year only gives 8 points (10 points allows a 3-month reduction of hours at part-time without wage loss), the first 20 points must be used for professional training, and employees cannot accumulate more than 100 points in total.

[1] Interrogated about his remuneration, soccer player Zlatan Ibrahimović expresses this ideology at its purest: "What is 'a lot'? I don't know what is 'a lot.' […] It's the market that sets prices and not passion or the medias. And it's not my problem whether it's 'a lot' or not. My problem is to follow what the market says. The market says: 'this is your price.' This is what the market said" (cited in Foucart, 2018: 41, mt).

[2] The system was built in three steps. In November 2010, a law entitled employees to early retirement if they had been working in difficult conditions. In January 2014, this right was transformed into a point system with 10 specific factors defining *difficult conditions*. In September 2017, this point system was slightly reformed, reducing the number of factors to 6 (removing handling of heavy objects, painful postures, mechanical vibrations, and exposure to chemical products) and changing the way it was financed by removing the contribution of companies (firms previously had to pay between 0.01% and 0.02% of the wages their employees working difficult conditions).

But the wage is not everything. Work is secure if hours of work are guaranteed and if the worker is entitled to sufficient benefits and protected against the risk of instantaneous dismissal. The opposite of secure work is the so-called *casual work*, that is workers who are engaged on an as-needed basis, performing short-term contracts, often with irregular hours and without benefits, and without any guarantee of continuation (also *freelance* and *zero hours*, especially in the UK where zero-hour contracts are widespread). Whereas I will later defend a breaking of the division of labour with workers embracing more than one job, this does not mean doing it in precarious conditions. This is the case for current so-called "slashers" (from the keyboard sign "/") who accumulate jobs to make ends meet. In France, these slashers were more than 800,000 in 2016, with an average income of 460€ per month (Insee cited in Foulon, 2019b).

In a French context, precarious work can take several forms. The most widespread is the "*contrats à durée déterminé*" or CDD (fixed-term contract) as opposed to "*contrats à durée indéterminé*" or CDI (indeterminate contract). While there was only 6.6 million CDD whose length was less than a month in 2000, the number is already up to 17 millions, with the average duration of a CDD having been divided by three over the period (Foulon, 2019c) and with half of them today lasting less than 5 days (Hédon et al., 2019: 26). Although 85% of employees have a CDI contract, 87% of new contracts being signed in 2017 were CDD (ibid.). Another form of precarious work is temporary work (*interim* in French). There are today more than 800,000 French workers under such contracts (30% more than in 2015), with the average length of a job being under two weeks (ibid. 27).

For autonomy

One aspect of decent work should be autonomy at work. Traditional wage-labour is a constant bargaining process with employees trying to minimise the length and intensity of the labour while maximising wages and benefits versus employers striving to achieve the opposite. The best way to overcome this struggle would be to let employees be their own employers. There is nothing new to this as it already exists in certain types of employment. In a way, it would simply be a generalisation of the logic of self-employment to productive units with more than one employee.

A diversity of concepts has emerged to capture this ideal of autonomous work. Archer (1995: 69) speaks of "economic democracy" for "a system of governing firms in which direct control over them is redistributed […] out of the hands of the capitalists and into the hands of their workers." Wolff (2012) proposes a model of "Workers Self-Directed Enterprises" with workers serving as their own board of directors. Bauwens and Pazaitis (2019: 33) call "post-subordinate salariat" an organisation in worker cooperatives where employees retain agency over their activity while benefiting from the security of a larger structure (e.g. regular salary, welfare benefits, administrative and legal support).[1]

A large swath of currently existing work relies on a "coordinator class" (Albert, 2017: 22) taking on all important, creative decisions, which are then imposed as rules to lower-rank workers. In that sense, employees are indeed *employed* to perform tasks outside of their

[1] This is referred to as a "labour mutual." For example, the *coopératives d'activité et d'emplois* (e.g. Coopaname, Oxalis in France, Grands Ensemble, SMart in Belgium) where several independent workers gather as a cooperative.

autonomous volition, making them likely to feel alienated from their work. Autonomy at work means being able to deliberately choose how one should work: the schedule, the division of tasks, the tools to be used, the quality and quantity of products, environmental standards, the distribution of revenues, decisions concerning investment, and so on.

One argument as old as political economy itself is that an extreme division of labour can deprive some classes of workers from intellectual skills and time.[1] Workers degenerate into employee-machines, from "the rank of artisan to that of unskilled labourer" (Proudhon, 1846: 192), they become "an appendage of the machine" (Marx, 1848), "no longer men but pieces of men" (Lafargue, 1883: 59), reduced to the level of an "intelligent-gorilla" (Taylor, 1911: ch.2).[2] This effect runs in parallel to a polarisation of the work landscape where middle-skilled jobs disappear while low-skill and high-skill ones get more numerous.

An extreme division of labour that leads to wide disparities in cognitive capabilities and time availabilities is a threat to democracy. Direct democracy, especially, requires that limits be put to the extent of the division of labour as to guarantee the ability for people to be active citizens.[3] Of course, this does not mean that one should completely abolish all divisions of labour; people have diverse talents and aspirations and the collective benefits of such a division are undeniable. The point is rather than (a) there exist thresholds after which further dividing labour becomes counter-productive for collective welfare; and (b) that there is a trade-off between the efficiency gains provided by a more specialised division of labour and conviviality and autonomy.[4]

Autonomy at work also matters for autonomy outside of work. In order for direct democracy to function, it is not only time that is needed but also skills and attitudes. One cannot expect docile, servile, and subordinated employees spending their days on mind-numbing tasks to become autonomous, critical, and well-informed citizens as soon as they clock out the workplace.[5] The way we behave at work affects the way we behave outside of it. In his

[1] "The man whose life is spent in performing a few simple operations […] has no occasion to exert his understanding, or to exercise his invention in finding out expedients for removing difficulties which never occur. He naturally loses, therefore, the habit of such exertion, and generally becomes as stupid and ignorant as it is possible for a human creature to become" (Smith, 1776b: 1040). "A complex society thus resembles a large mechanical device; the social whole is a *system* whose workings require individuals to be *functionally specialized* like the organs of a body or the parts of a machine. However complex and advanced it may be in itself, knowledge which has become specialized to suit the systemic requirements of the social whole no longer contains enough cultural resources to enable individuals to find a direction in the world, to give meaning to what they do, or to understand the meaning of the enterprise to which their efforts contribute. The system invades and marginalizes the life-world, the world accessible to intuitive understanding, to practical and sensory assimilation. It deprives individuals of the chance to have a world, to share it with one another" (Gorz, 1993: 58, italics in original). "The worker's activity, reduced to a mere abstraction of activity, is determined and regulated on all sides by the inanimate limbs of the machinery, by their construction, to act purposefully, as an automaton, does not exist in the worker's consciousness, but rather acts upon him through the machine as an alien power, as the power of the machine itself" (Marx, *Grundrisse*, 1973: 692-5).

[2] This is Frederick W. Taylor famous comment on the handling of pig iron (block of crude iron): "This work is so crude and elementary in its nature that the writer firmly believes that it would be possible to train an intelligent-gorilla so as to become a more efficient pig-iron handler than any man can be" (Taylor, 1911: ch.2).

[3] Defenders of representative democracy might quickly argue that division of labour improves productivity and so liberates time for overall politics. The exclusion of the working classes is done for the benefit of a more vibrant polity. This argument, however, would be opposed by degrowthers arguing that there is nothing guaranteeing that the time that would be liberated from production be dedicated to politics (and this is assuming that productivity gains actually translates into more leisure time). Moreover, they would say that representative democracy, even the most vibrant kind, lacks the directness of more participatory forms of democracy.

[4] That is a catch-22 situation. Only a community that had adopted a direct form of democracy would be akin to vote the decision of curtailing specialisation in order to allow a more direct form of democracy.

[5] Black (1985: 9) puts it bluntly: "You are what you do. If you do boring, stupid, monotonous work, chances are you'll end up boring, stupid, and monotonous." Albert (2006: 103) is more considerate: "Not all tasks are equally desirable, and even in a formally democratic council, if some workers do only rote tasks that numb their minds and bodies, and other workers do

empirical work, Karasek (2004) points to a "carry-over effect" where the organisation of work impacts political activity: less autonomy at work leads to less involvement in politics.[1] If this is true, the objective should be to organise the workplace following the same principles of direct democracy that one would want society to be organised around.

So decent work is the one that enables workers to be active citizens, or put another way, that increases their capabilities (in the sense of Indian economist Amartya Sen). This is what Coutrot (2018) means when he calls for "liberated work": giving more autonomy to employees at work to decide *how* to produce but also giving more autonomy to citizens outside of work to decide *what* is to be done with what is being produced. The author summarises this ideal in a sentence: "democracy should be a tool for work and work should become a school for democracy" (ibid. 16, mt). On the later point, one can bring in American philosopher John Dewey (1922) who advocates democracy *through* work, that is an organisation of work that empowers employees to be better citizens. Adding the ecological dimension, Princen (2005: 152) advances self-directed work as a "work ethic for an ecologically constrained world."[2]

But there are two pitfalls. First, just as hierarchy at work generates hierarchy outside of it, the opposite is also true. For example, if sexism is prevalent in society, it is likely to creep into the workplace. As Mariarosa Dalla Costa and Selma James wrote in their classic *The Power of Women and the Subversion of the Community*: "slavery to an assembly line is not a liberation from slavery to a kitchen sink" (Dalla Costa and James, 1973: 33 cited in Weeks, 2011). Likewise, a disregard for nature in everyday life will likely lead to a mode of production that is itself exploitative of non-human others. This means that even though they both influence each other, getting rid of hierarchies in society and in the workplace cannot substitute for each other.

The second pitfall is "self-managed servitude" (Black, 2016b: 78). While the Marxian roles of exploiter (boss) and exploited (workers) used to be clear, new styles of management are blurring these boundaries and creating situations where it is employees who are exploiting themselves. Black (2015b: 78) calls this "self-managed servitude." "This typifies how hierarchies of regulation have been horizontalized. Most of us still have a boss above us giving orders. But we have also partially internalized this 'boss function' " (Cerderström and Fleming, 2012: 13). With or without a boss, implicit or explicit, exploitation with a smile is exploitation nonetheless, and a "Chief Happiness Officer" organising laser games on Friday afternoons does little to change that. Again, the solution lies in a broader cultural shift towards postwork where the importance of work in life is reduced (this is a complex point to which I shall shortly return).

Policy instruments for decent work: Self-management

Of the nine goals I have ascribed to degrowth, this is probably the one that will find itself most agreeable with the current political discourse about work. As such, there is no need to re-invent the wheel and argue for policies that are, to some extent, already in place – e.g. accounting for

engaging and empowering tasks that not only brighten their spirits and attentiveness, but also provide them with information critical to intelligent decision-making, saying that the two should have equal impact on decisions denies reality."

[1] For other studies that have reached the same results, see e.g. Lopes et al. (2014) and Budd et al. (2015).

[2] Princen (2005: 152) proposes a "work ethic for an ecologically constrained work" where people would have autonomy over the use of their time. This "self-directed work" (ibid. 135) would consist of three features. People would have autonomy in the setting of their schedule and agency over the rhythm of their work; their work would be task-based, which carries "built-in limits" ("the time is up when the tasks are done"); and rhythm of work would be embedded within natural and cultural cycles such as the seasons and public holidays.

arduous working conditions (*comptes pénibilités*, onerousness accounts, mt), set an adequate minimum wage and benefits, or protect employees against dangerous working conditions. What I shall do instead is to argue for one policy proposal that spans over all the objectives described above. This policy, that I will refer to as *self-management*, has to do with granting workers with autonomy over the content and form of their work.

The term "self-management" is often restrained to situations where a company is run by its workers. This what Wolff (2012) calls "workers self-directed enterprises," some cases being "worker-recuperated companies" (Azzellini, 2018).[1] Famous examples of this models include the *Vio.Me.* factory in Greece, the *New Era Windows* in Chicago, the beer brewery *Brahma-AmBev* in Venezuela, or the tile factory *FaSinPat*, the *Hotel Bauen*, and the *Clínica Junín* in Argentina (for details, see Azzellini and Ressler, 2014, 2015a, 2015b). But here, I use the term in a broader sense to mean the autonomy of the ones working, regardless of the type of work, and whether or not it happens collectively within a factory, as a family in a farm, or as a small group within a cooperative. In addition, and building on my broad definition of work, I consider the possibility to include stakeholders not directly linked with the producers in the planning of production (e.g. the multi-stakeholder governance of a SCIC). So when I say "workers," I mean all actors involved in the process of production.

In regards to the objectives discussed above, there are two main issues that are crucial for decent work: (1) deciding what to produce and how to produce it; and (2) deciding about the redistribution of the revenues from that production. Whereas the idea of self-management consists in workers themselves finding out answers to these questions, I here only propose examples of outcomes that could result from this process.

(1) Production decisions

The idea of socially useful production is that time and effort should be spent making goods and services that can be used as direct satisfiers of needs (this is one of the principles of degrowth: *what is not needed should not be made*). The notion of "needs" being ambiguous and contextual, any process of production should start with the following question: Why should I produce this? In *Goal n°2: Democratic ownership of business*, I have argued that companies (or any social structure engaged in production) should organise their production around a mission of social benefit. Here, I am merely refining that claim: workers should be the ones to define that mission. They can either do it at the start of a business or revise it periodically. Once the mission is set, workers should also agree on a method of production to accomplish it. Providing electricity is a laudable social mission, and yet it widely differs whether that service is provided via a nuclear power plant or through windmills and solar panels.

The tomato processing company *Morning Star* (600 employees, $1 billion turnover) is a good example of a fully self-managed business (for more detail about this specific case, see Corporate Rebels, 2017). The firm is organised via a collective setting of mission statements. While the company as a whole has a mission statement,[2] each unit and eventually individual

[1] Worker-recuperated companies are "former capitalist businesses that were closed down by their owners or went into bankruptcy, leading to a workers' occupation and a struggle to restart operations under collective and democratic self-management" (Azzellini, 2018: 764).

[2] "To produce tomato products and services which consistently achieve the quality and service expectations of our customers in a cost effective, environmentally responsible manner" (cited in Corporate Rebels, 2017).

employee also set themselves a specific mission. All interactions between employees is voluntary with no one holding more power than someone else. Because there is no hierarchy, there is therefore no orders. To organise, all employees note down a number of commitments towards each other that would enable them to achieve their personal and collective mission.

It becomes clear that the definition of decent work is a task that concerns more than only employees. Providing electricity can only be judged socially useful in regards to the quantity of electricity that a community needs; and finding a sustainable and fair manner of producing electricity requires an assessment of how it would impact a wide range of stakeholders. The French consumer cooperative *C'est qui le patron?!* (Who's the boss?!), for example, asks its participants to vote from a list of potential products to decide which ones should be offered, and also in what packaging and at what price (for more, see Henley, 2019).[1] Just like processes of participatory budgeting where citizens partake in the city's budget, decent work demands participatory planning regarding certain aspects of production. This does not mean that all decisions are taken via direct democracy, which would be hardly practical, but only that there are democratic checks on production before and after it happens.

After defining what to produce, one must decide at what price to sell. Again, this requires an extended vision of governance including not only producers but also consumers. In an empirical case-study of the French Collective Interest Cooperative Company (SCIC) *Alter-Conso*, Maignan (2017) details how prices are set collectively via deliberation among a variety of stakeholders. In that Community Supported Agriculture scheme, prices are suggested by producers to a group constituted of employees, producers, and consumers, who deliberates until they reach an agreement on a fair price. To be modified, prices necessarily require discussion within that multi-stakeholder board – see Bloemmen et al. (2015) for another case study, this time of a Community Supported Agriculture scheme in Belgium.

Another key aspect of the how-to-produce-it question, this time only concerning workers within the company, has to do with the distribution of all the labors to be performed. Human beings need diversity, which in work means a diversity of tasks. This was already understood by French socialist philosopher Charles Fourier (1772-1837) in the design of his utopian settlement *Harmony*. Anybody would get bored of repeating the same task over and over, and so people should be allowed to "flit around" a diversity of tasks (Fourier believed that social interactions derived from three fundamental human "passions," one of them being what he called *the butterfly* or the "alternating" passion).

The idea of "balanced job complexes" was developed by Michael Albert and Robin Hahnel in their Participatory Economy (Parecon) model.[2] The logic is simple: "if you work at a particularly unpleasant and disempowering task for some time each day or week, then for some other time you should work at more pleasant and empowering tasks. Overall, people should not do either rote and unpleasant work or conceptual and empowering work all the time.

[1] Describing the cooperative, Henley (2019) talks about such process of planning applied to potatoes: "consumers, armed with an online briefing on the basics of potato production, must choose where and under what conditions they want them grown and stored, whether they should be organic, what the sacks should be made of (plastic or paper) and the price the producer should get. […] Every decision is made by a majority of votes cast online, with the cooperative's paid-up members, who set the key parameters and overall direction, each having one vote just like everyone one else."

[2] A similar idea is the "Work and Ecology" project commissioned by the Hans Böckler Foundation in 2001. It proposed a concept of *mixed work*: "the combination of different activities with different formal principles and demands that result in a set of mixed qualifications and mixed workloads" (Hildebrandt, 2003: 390 cited in Littig, 2018: 569).

We should each instead have *a balanced mix of tasks*" (Albert, 2006: 104, italics added).[1] The authors imagine workers ranking all possible individual tasks to be done in a workplace based on their quality, and then in a procedure of "job balancing," making sure that any bundle of tasks (individual job) is around the average of all the others. This would be done both within workplaces by workers themselves and possibly also across workplaces via deliberation within "job complex committees." Whereas the former is straightforward, the latter would require "to have people spend time outside their primary workplace offsetting advantages or disadvantages that its average [within a specific workplace] may have compared to the overall societal average" (ibid., 108) – a sort of Erasmus for workers.

(2) Remuneration decisions

The second most important decision has to do with the redistribution of the revenues from sales. Again, this is a reiteration of a point I have made in the previous chapter: splitting the revenues should be a democratic decision involving all stakeholders concerned in the process of production (understood in a broad sense, so not only the making of the product, but also the production of the inputs that were required to produce it and the amenities supporting the reproduction of humans and ecosystems involved in making it). In the degrowth society I envision, a company – and a community as a whole – should function like an income-sharing commune where the remuneration of each is collectively set taking into consideration the different abilities and needs of each person.

While the minimum and maximum wages are set nationally (€1,500 and €6,000 as set in Goal n°1), the setting of wages between these thresholds remains the be decided within the firm. This is the idea of self-determined salaries (*salaire libre* for "free salary" in French) where it is employees themselves who decide of their remuneration. Proponents of this system often mention the Brazilian firm *Semco* who made it famous in the 1980s; in France, companies often cited are *Fasterize* (15 employees) and Lucca (18 employees).

In their "practical guide for self-set salaries," Corporate Rebels (2018) explains how the Dutch digital services company *Incentro* does it. After attending a workshop to better understand the company's financial situation, employees fill their pay raise for the next year with a paragraph of justification on a shared document. Employees discuss, first in small groups and then together, what is best for themselves, for other workers, and for the company, before finally individually deciding on the amount. Other companies like tomato processing leader *Morning Star* (600 employees, 1$ billion turnover) organise the process via a "compensation committee" made of elected employees who review each individual demand for pay change (Pim, 2017). Another option is to democratically set a formula for salary, a process made famous by the social media management software company *Buffer* – e.g. [(salary linked to role * experience) + self-set portion] * loyalty = final salary (Buffer, 2015).

Within a collectively owned firms, the setting of a salary ceases to be a struggle between employees and managers. It becomes a routine task at the heart of work democracy that fuels regular discussions about justice in the work place (e.g. regarding persistent gender gap pay).

[1] Kropotkin (1898: ch.1, pa.7) exalted the "integration of labour, "a society where each individual is a producer of both manual and intellectual work." Difficult here not to think about Marx's famous sentence in *The German Ideology* (1845): "hunt in the morning, fish in the afternoon, rear cattle in the evening [and] criticise after dinner, just as I have a mind, without ever becoming hunter, fisherman, herdsman or critic."

It is also a good safeguard for transparency: in order to be able to determine one's salary, one must know the finances of the companies and the salaries of other employees (the logic already in place in Norway where income and wealth declarations can be openly accessed online.) The same logic of self-determination can be applied to a range of other decisions like working hours, holidays, and ultimately, everything.

From a degrowth perspective, decent work is associated to **5 objectives**:

- socially useful and ecologically sustainable work;
- an equitable distribution of tasks no one wants to do;
- health, safety, and dignity;
- fair wages and security; as well as
- autonomy for workers at work and outside of it.

In order to satisfy these objectives, I have listed **4 policy instruments**:

- implementing self-management in workplaces,
- organising the rotation of undesirable tasks,
- remunerating work based on time and effort, and
- reducing the division of labour as to ensure that each job holds a diversity of tasks.

Goal 6: Postwork

Degrowth demands less work and better work but also a more fundamental redefinition of what work is and of the role it should play in society. It calls for, in other words, not only a liberation *in* work but also *from* work (Gorz, 1983), making work both less dreadful and less central – one could say, escaping the "ideology of work" (Ellul, 1980; Borel, 2015). The idea is radical: it is not only a matter of guaranteeing employment that is sufficient in quantity and desirable in quality (Goal n°4 and 5) but to oppose the idea of employment itself.

This ancient[1] yet still arcane line of thought has several names: "the abolition of work" (Black, 1985), "the destruction of work" (Fusinato, 1994), "the refusal of work" (Frayne, 2015), "anti-work" (Ford, 2016), and also "postwork" (Weeks, 2011). In essence, this zero-work ideal was the intention of Guy Debord famous 1963 graffiti "*ne travaillez jamais*" (never work), capturing some of the ideas of the 1960s French revolutionary group the Situationist

[1] This critique is by no means new. In book often cited by antigrowth writers, French journalist – coincidentally also Marx's son-in-law – Paul Lafargue (1883: 5) describes the ravages of the dogma of work: "A strange mania governs the working class of all countries in which capitalist civilization rules, a mania that results in the individual and collective misery that prevails in modern society. This is the love of work, the furious mania for work, extending to the exhaustion of the individual and his descendants." Other anti-work classics include Keynes' *Economic Possibilities for our Grandchildren* (1930), Russell's *In Praise of Idleness* (1935), James' *The Gospel of Relaxation* (1906), Morley's *On Laziness* (1920), Orwell's *Why Are Beggars Despised* (1933), and Bell's *Work and Its Discontents* (1956).

International.[1] In a more modern lingo, one could, following Livingston (2011, capitals in original), simply say "FUCK WORK."[2]

The crux of the critique is that employment is inherently undesirable. It is so for several reasons: employment subordinates and compromises personal autonomy, it is imposed by a fear of poverty, it encroaches on leisure time, and this regardless of whether work is decent or not. In a free society, postwork thinkers argue, there should be no social coercion pushing individuals to work (especially not of an economic kind). Following the definitions set at the beginning of this chapter, all work should only be fully *autonomous work*. Just like there is no "jobs" within a family or a group of friends, the anti-work position argues that jobs would be unnecessary in a well-functioning human community.

Let us avoid any misunderstandings. Anti-work theorists do not advocate for the cessation of all forms of labour (contra Foster, 2017),[3] nor do they glorify unemployment.[4] Instead, they call for the "elimination of work-as-employment, work-as-commodity" (Gorz, 2010: 11). The purpose of postwork is "to desecrate the temples of work" (D'Amato, 2016: iii), "to smash the job culture" (Wolfe, 2005) and the "altar of work" (Fleming, 2017: ch.4), to abolish "the permanent compulsion to work" (Gorz, 1983: ch.IV) as to be able to evaluate human activities outside of the realm of economic rationality.

As such, postwork goes in the same direction of what I have called de-economisation. For Black (1992), postwork is a *post-economic* mode of organisation: "Freedom ends where the economic begins. Human life was originally pre-economic; I have tried to explore whether it could become post-economic, that is to say, free" (Black, 1992).[5] Re-embedding the economy within society means focusing on concrete needs and enjoyable, convivial processes of production while disregarding moneymaking (hence the *post*-economic). And this is precisely what Black (2015: 165) means: "The synthesis of work (production of useful output) and play (activity for its own sake) is what I call the abolition of work." The end of work is the end of the primacy of the economic over other spheres of life (Gorz, 1983: ch.IV).[6]

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[1] The *Situationist International* was a Paris-based, anti-State communist group that existed between 1957 and 1972, consisting of around 70 people. Their goal: to subvert the everyday functioning of capitalism by creating "situations," which they understood as moments of revolutionary aspirations (e.g. the *détournement* of art). Guy Debord was a leading figure of the movement, and author of one of its key text, *The Society of the Spectacle* (1967). For more on the Situationist Movement, see Matthews (2005).

[2] As proposed by economic historian James Livingston in an exchange with critics of his book *Against Thrift* (2011): "Why not say, Fuck Work? […] Why do we want full employment when more work for all means less income and less enjoyment for everybody? In plain sight of the simple fact that we can increase output without increasing inputs of either capital or labor – when socially necessary labor is disappearing – why do we seek out the deferral desire that work requires, regardless of how collective and cooperative, or how lonely and artful it must be? Why are we bound to this slave morality."

[3] "The work which is disappearing is 'abstract labour,' labour that is measurable, quantifiable and detachable from the person who 'provides' it; work which can be bought and sold in the 'labour market.' It is, in short, the monetarily exchangeable work or commodity labour which was invented and forcibly imposed by manufacturing capitalism from the end of the eighteenth century onwards" (Gorz, 1999: 55). "To abolish wage-based society would be to free labour from the tyranny of employment, in which commodity relations hold sway over work in its anthropological sense" (Gorz, 2007: 57 cited in Gollain, 2016: 130).

[4] "putting people out of work does nothing to put an end to work. Unemployment makes work more, not less important" (Black, 2015: 101). One should not romanticise unemployment: low-wage, low-skill workers being trapped into involuntary joblessness should not be considered a proud and conscious resistance against the work-centred society, but rather an evidence of the maldistribution of work in an unequal society.

[5] "With the abolition of work, the economy is, an effect, abolished also. Replacing today's Teamsters hauling freight will be Welcome Wagons visiting friends and bearing gifts. Why go to the trouble to buy and sell? Too much paperwork. Too much *work*" (Black, 2015b: 82, italics in original).

[6] Gorz (1983: ch.IV, italics added) goes in the same direction: "Beyond waged work, what is being challenged here is *the primacy of the economic*, that sphere in which every action is solely determined by the principle of equal exchange, where nothing has its own value, nothing is an end in itself. […] the utilitarian, exchangeist conception of work and wealth."

Anti-work thinkers are clear, work time reduction and decent work are different objectives from postwork, even though most of them agree that shorter hours are beneficial to the cause (e.g. Black, 1985: 22).[1] One way to solve that dilemma is to understand the transformation of work as a transition encompassing different phases. In the short term, reducing working hours is achievable without questioning work as an institution. The issue of the quality and composition of work requires more significant changes, which will make its realisation slower to materialise. In this transition, postwork is the utopian perspective from which these changes should be considered – it is the long-term horizon. Postwork is the ultimate objective because it gives people the ability to choose the *quantity* and *quality* of work they perform. It is freedom *of* employment and *from* employment, which represents the highest degree of autonomy concerning the use of one's time.

What would a world without (economic) work look like? If the current work ideology is maladapted, especially regarding the objectives of social-ecological justice, what should come to replace it? I summarise the vision of a postwork degrowth future in five specific objectives: (1) dismantling the work ethic as to put an end to the fetish of employment, (2) refocusing work on the production of use values, (3) decommodifying time, (4) redefining leisure, and (5) undoing specialisation and deconstructing the idea of a career. Let us now explore what each of these objectives imply.

To emancipate from the work ethic

Wage-work is a recent invention (Latouche, 2005).[2] Even more recent is the fact that it came to be glorified to the point of becoming a moral value of its own (Lipset, 1990). The view of work "has shifted from jobs to careers to callings – from necessity to status to meaning" (Thompson, 2019). Speaking of a "work ethic" means understanding work as a virtue, as something inherently good in and of itself, and thus as a moral obligation. It is different from seeing work as a requirement for subsistence (I must work to satisfy my personal needs) or a social duty (I must work to satisfy the needs of my community). A work ethic implies that I must work because that is the morally right thing to do, and if I were to remain idle without nobody knowing, I would still personally feel guilty of being so.

If one does not work to live but live to work, worklessness can be experienced as a deficient state of being (Frayne, 2015: 108). "For to not work in our society is to lack social significance – it is to be a nothing, because nothing is what you do" (Brown, 2011: 18). Although experiences vary depending on class, gender, race, age, among other cultural factors,[3]

[1] Here is Black (1985: 22) on the matter: "To abolish work requires going at it from two directions, quantitative and qualitative. On the one hand, one the quantitative side, we have to cut down massively on the amount of work being done. […] On the other hand, […] we have to take what useful work remains and transform it into a pleasing variety of game-life and craft-like pastimes, indistinguishable from other pleasurable pastimes, except that hey happen to yield useful end-products."

[2] Latouche (2005: 76) points to the formation of the Protestant ethic in the 16th century and the advent of industrial capitalism in the 19th century as the turning point where work became a core value in the social imaginary. Reflecting on the history of economic practices, he concludes that work is the exception, not the rule, and that "only very few human societies have found it useful to invent work" (ibid. 66, mt). In a way, the modern work ethic was "an accident of history" (Hunnicutt cited in Beckett, 2018). Thompson (1963) shows that the work imaginary that now seems undisputable was actively resisted by most, and that it is only via a long and oppressive process of disciplinary education that wage-labour and its mechanical representation of time became hegemonic.

[3] Gallie and Paugam (2000) describes how the experience of unemployment varies from one welfare regime to another. The duty of caring for the unemployed, for instance, falls upon society as a whole in Scandinavian countries, whereas it is handled at the level of the household in Mediterranean countries, and individually in Japan.

unemployment can shake the foundations of one's identity (Schnapper, 1981; Roupnel-Fuentes, 2011). Without a job, I would feel like a slacker, a loafer, a layabout, a scrounger, a skiver, a free rider, a bludger, a dodger, a shirker, a workshy lazy bum, an indolent leech, or just a loser. The fact that there exists so many pejorative words to denounce idleness is itself an evidence that work has been heralded to the level of supreme calling. It is also the common way to call leisure: "I am *not working* today." But defining leisure as "non-work" carries a negative bias suggesting that leisure is merely an interval between two work shifts. The reverse (defining work as "non-leisure") sounds unusual even though it is perhaps more in line with the time-saving purpose I have assigned to economic organisation.

In the ideology of workism, existential purpose is to be found in work (Ellul, 1980). Humans are metaphysically assumed to be made for work and they are expected to give meaning to their lives through work. This is why it is not uncommon for retired people to feel useless and purposeless – the so-called "retirement blues." This is also why people brag about how much they work, long hours being expected to command praise and respect, starting with Elon Musk Tweeting that "nobody ever changed the world on 40 hours a week" (November 2018) or boasting about his 120-hour workweek (Johnson, 2018).

Work has become a code of conduct.[1] Whatever the job, no matter how useless, low-paid, degrading, perhaps even exploitative and destructive, it is always commendable to be assiduous, industrious, and diligent.[2] All workers alike, from the most tyrannical manager to the kind-hearted nurse are "just doing their job." In that sense, the work ethic is an institution that, not only legitimates domination and exploitation, but accelerates its pace through the moral valorisation of intense "work." This is how *workers* are lead to behave in ways they would have never found morally justifiable otherwise. "I am just doing my job," one says, which means that it is not me but the system as a whole that is responsible for my actions.

The spectre of unemployment in a wage-based society has created what Gorz (1997: 59) calls a "job or nothing ideology" where the emphasis is put, not on the type of work being performed, but merely on the fact of having a job.[3] Any job is better than none. Jobs become necessary because there are workers, and not the opposite (workers being necessary because there are jobs to be done). Work has become an objective in itself: "it is no longer those who work who 'make themselves useful' to others, but society which is going to make itself useful by 'enabling' you to work" (Gorz, 1997: 57). Work is caught in a purposeless treadmill that Georgescu-Roegen (1975: 378) described as "the circumdrome of the shaving machine":

[1] Some argue that employment is desirable because it disciplines people, who, out of their own volition, would live a life of vice (like in the proverb, *idle hands are the devil's playground*). Danaher (2014) calls this the "idleness objection." From a degrowth perspective, it is the opposite: it is rather employment (and its discipline) that is problematic.

[2] This leaked note from an analyst at Barclay's Global Power and Utilities group in New York exemplifies this attitude. Welcoming students for their Summer internship, it reads: "I wanted to introduce you to the 10 Power Commandments… For nine weeks you will live and die by these… We expect you to be the last ones to leave every night, no matter what… I recommend bringing a pillow to the office. It makes sleeping under your desk a lot more comfortable… the internship really is a nine-week commitment at the desk… an intern asked our staffer for a weekend off for a family reunion – he was told he could go. He was also asked to hand in his BlackBerry and pack up his desk… Play time is over and it's time to buckle up" (Huang, 2015).

[3] "It is a message which extols the centrality of work, presents it as a rare commodity, as something one does or does not *have*, not a something one *does* by expending one's energies or one's time. It presents work as an asset one should be prepared to make sacrifices to 'possess'; an asset for whose 'creation' (for work is no longer seen as creating wealth, but wealth as creating jobs) employers, owners, investors and companies deserve the encouragement and recompense of the nations, together with subsidies, incentives and tax concessions for the Inland Revenue. Work is a commodity, employment a privilege" (Gorz, 1997: 56-7, italics in original).

"shave oneself faster so as to have more time to work on a machine that shaves faster so as to have more time to work on a machine that shaves still faster, and so on *ad infinitum*."

But work did not herald itself as a semi-cultish practice on its own. Those benefiting from production had a direct interest in propagating the work-is-good story. "[I]f you were designing a *Black Mirror* [a dystopian science-fiction TV series] labor force that encouraged overwork without higher wages, what might you do? Perhaps you'd persuade educated young people that income comes second; that no job is just a job; and that the only real reward from work is the ineffable glow of purpose. It is a diabolical game that creates a prize so tantalizing yet rare that almost nobody wins, but everybody feels obligated to play forever" (Thompson, 2019).

In a society where work takes the form of employment, employability can turn into an obsession. Everything I do has value only if it increases my ability to secure a job, if it looks good on my CV.[1] Years of playing chess must be framed as a knack for problem solving, a love for poetry as an asset for communication, a successful bank heist as a demonstration of outstanding teamwork skills. Everything we do is "being subordinated to personal cultivation for the labour market" (Frayne, 2015: 76), to the point where certain "playdate coaches" specialise in training young kids to develop the attributes that will help them to secure an admission to prestigious schools (Jacobs, 2013). If employment provides utility (e.g. identity, pride, prestige, and income), utility-maximisation turns into employability-maximisation.[2] "When we all become 'human capital' we not only have a job, or perform a job. We *are* the job" (Cederström and Fleming, 2012: 7, italics in original), which means that work never ends.

But why should employees be held more responsible for unemployment than employers? Why should the problem be *employability* and not *"employer-ability*" (Hédon et al., 2019: 225, mt)? Calling work an ethic assumes that it is individuals (as moral subjects) who work – or rather who *should* be working – and not society as a whole that should welcome them into work. It follows that individuals who do not find a job cannot blame anyone but themselves.[3]

Time appears to be the perfect equality of opportunity: everybody has 24 hours per day and so if someone runs out of time it must be because of poor decisions. Success is defined by how well one can turn time into money, hence the cult of entrepreneurs who are often famously overworked in the phase leading to their fortune (e.g. the "996" promoted by Jack Ma, the CEO of Alibaba: work from 9 in the morning to 9 in the evening, 6 days per week). This is a form of *temporal neoliberalism* with the logic of neoliberalism applied to the allocation of time with people becoming time fund manager held responsible for its investment.

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[1] Paradox: as a degrowth scholar, decrying the cult of employability does in fact increase my employability.

[2] The importance of employability has been reminded to me all too many times during my PhD. Supervisors, coordinators, funders, and colleagues did not miss an opportunity to talk and prepare for "getting a job" after graduating. I find it repugnant. Of anyone, academics should be the one most intensely opposing the cult of employability. As a strategy of resistance, I advocate what I came to call a Hawking-ian attitude toward thesis writing. Shortly after starting his doctoral dissertation, Stephen Hawking was told he had motor neurone disease and that he would probably die shortly after the end of his PhD. The question that faced Stephen at the time was a disturbing one: What would you choose to research if you knew it was your last piece of work? I believe Stephen chose to pursue the topic that truly appealed to him at the time. He did not compromise; he did not select what would be best for money or prestige; he just followed his gut and picked a research question that he wanted to answer. I feel we should ask ourselves this question more often, and maybe start treating every research question as if it were our last.

[3] This explains why neoliberal governments are so opposed to inscribing work time limits in law; people should be free to manage their time because it is ultimately theirs.

But why is work so powerful in the social imaginary? After all, even with all adulthood spent in employment (let us assume 25 to 65 years) at full time (1,607 hours per year), this represents only 10% of a lifetime. Work has become all too normal by spreading itself to more and more domains of life. Students do their *homework*, people *work out*, one does not paint or sculpt but produce an *artwork*. Instead of work being one specific type of activity, it has become a benchmark to describe all possible activities – an abstract, all-encompassing definition of performance based on present or expected benefits, most often in the form of financial compensation. When work used to be tied to a workplace (spending time *at* work) with specific schedules (eight to five), it is now an ideology applying everywhere all the time (spending time *working*).

If work is right and idleness wrong, then employment becomes its own distributive rule of justice. "He who does not work, neither shall he eat" declares Paul in the New Testament. In a work-based society, distribution is based on a desert principle: benefits should go to the hard-working and burdens to the do-nothing.[1] But this story is a political mirage. Wage-labour is only one way among many to distribute the surplus of the social product, one way that has proven unsuccessful in guaranteeing equality. If it were to be true, then why would those working longest hours in the worst conditions be paid so little? As long as this is the case, weakening the work ethic is a matter of justice. It is necessary as to allow a redistribution of wealth, not based on hours worked and market worth, but on citizenship and a broader understanding of social contribution.

For concrete work

Without work, there would be no economy. As Black (2015: VIII, italics in original) makes clear: "what I call the abolition of work […] amounts to a call for the *abolition of the economy*." This objective resonates with degrowth, even though I would be more prudent and not call for an "abolition," but rather for emancipating certain practices from the economic logic. In Chapter 6, I have argued that needs (use value) should have precedence over money (exchange value). Now I am going to argue the precise same thing but from a different angle: *concrete work* should have precedence over *abstract work*.

What is economic about wage-labour is that it posits the wage as the main relation between employees and the work they perform. Marxian economists call this *abstract work*.[2] From an exchange value perspective, is considered work only what can be sold, no matter the usefulness of what is being produced.[3] To simplify, abstract work is GDP work, that is activities with direct monetary consequences. If I spend an hour volunteering to pick up detritus on the beach, it generates no exchange value; but if I spend an hour dumping out detritus on the beach

[1] "We have come to believe that men and women who do not work harder than they wish at jobs they do not particularly enjoy are bad people unworthy of love, care, or assistance from their communities" (Graeber, 2018: xxvi).

[2] In case this is not already obvious, the Marxian concept of *abstract work* has nothing do whether the job itself has to do with abstraction. For instance, writing a philosophy book has to do with abstraction but is nonetheless *concrete work* because it corresponds to a specific need. If a philosopher is paid to write about an imposed topic, then Marxists would call this *abstract work*.

[3] Personal experience: every time I tell my mother about my current academic activities (teaching this, writing that, attending such conference etc.), her first reaction is almost always something in the lines of "do you get paid for it?" A Marxian economist would say that my dear mother is obsessed about *abstract work*. This reminds me of Orwell's defence of beggars in *Down and Out in Paris and London* (1933): "In practice nobody cares whether work is useful or useless, productive or parasitic; the sole thing demanded is that it shall be profitable."

as a paid employee, it does.[1] As I explained in Chapter 6, the dominance of monetary value over all other forms of value is problematic. In terms of work, this means that wage labour should not dominate over other forms of labour.

Abstract work reduces the diversity of one could expect out of work to one single quantity: the wage. "Work more to earn more," was the slogan of the 2007 presidential campaign of former French President Nicolas Sarkozy. Work reduced to a means of earning purchasing power and the worker reduced to a mere future consumer. The worker creates commodities in order to purchase commodities, themselves created by other workers who also strive to *earn a living*.

The opposite of abstract work is *concrete work*: the one which directly satisfies a need. (One could also like Holloway (2010) call it *doing*.) Historically, this is a form of work that predates its abstract counterparts by as long as the human species existed. I pick up apples or plant an apple tree so that I can eat apples, I write an article to fill a knowledge gap, I learn how to play the banjo to entertain my friends – all these activities are directly connected to a concrete need.[2] From a use value perspective, parenting is socially useful whether or not it is paid; and in reverse, manufacturing biological weapon or spamming algorithms is undesirable whether or not it is paid.

Illich (1981: 24) called this "vernacular work" (also "subsistence-oriented work") for "unpaid activities which provide and improve livelihood, but which are totally refractory to any analysis utilizing concepts developed in formal economics." Illich (1977) even provocatively titled one of his book *Le chômage créateur* (creative unemployment, mt), arguing that unemployment is perceived negatively only in a society that conflates work and paid employment. In terms of concrete work, one can be unemployed and yet performing fulfilling and socially useful labour (e.g. me editing this dissertation right now); in the same way that one can be employed without no use or meaning as I have just showed in *Decent work*.

As I have argued earlier, work does not only create products but also people, and so one should evaluate the desirability of work not only based on *whatever* is being produced but also on *whoever* is being produced (i.e. the impact the production process has on workers and society has a whole). Elderly care might be socially useful, but less so if the way it is provided robs carers of their dignity; the provision of food is socially necessary, but less so if the way it is being done creates mentalities that are antipathetic towards animals. In the logic of money, those are merely "externalities," additional social and ecological costs on the periphery of monetary gain; but in the logic of needs, those are as important as the goods and services themselves.

What is more problematic is that this abstract work becomes the substance of social value. The story goes as follows: wealth is whatever is created during paid employment and the higher the wage the higher the collective utility of a worker. In the same way the market supposedly acts as a validation mechanism for social usefulness (an expensive product must be

[1] Difficult here not to remember Thoreau (1863: 2): "If a man walks in the woods for love of them half of each day, he is in danger of being regarded as a loafer; but if he spends his whole day as a speculator, shearing off those woods and making earth bald before her time, he is esteemed an industrious and enterprising citizen."

[2] Postwork is a critique of the hegemony of *abstract work*: "antiwork could be defined as any activity, or non-activity, which you value in its own right, not as a means to an end. […] it's simply chosen action (or non-action), accepted as it is, not collected like Brownie points towards some deferred moment of 'earned' happiness. It's always done for its own sake, in contrast to work, which is never done for its own sake" (Dean, 2016: 54).

useful), the labour market does just the same for work (a highly-paid worker must be useful). This is the so-called "marginal productivity theory" in neoclassical economics, or the fact that the highest wages contribute the most to social utility.[1] From that perspective, soccer players and financial traders provide invaluable services to society while bees, activists, and care takers are mere free riders.

Going from abstract to concrete work means decommodifying work, which means that its organisation should be social and political instead of economic. Just like Karl Polanyi argued almost eighty years ago in *The Great Transformation* (1944), the "labour market" of mainstream economists should cease to exist. As Baschet (2014: 105, mt) exclaims: "work is dead, long live the age of doing." In a degrowth society, work should be more task-oriented (use value) and less profit- or wage-oriented (exchange value).

But not so fast. Labour can be decommodified at one condition: that the same process happens to the basic means of subsistence. Indeed, to be able not to care about income, one must be able to live without one and not to be forced to "earn a living," as the expression goes. In a situation where all needs and wants satisfiers are commodities, there can be freedom *of* employment (being able to choose among different jobs), but there cannot be freedom *from* employment (being able not to work at all). In a commodity-riddled society, one should think about prices not as abstract representation of value but as a specific measure of the amount of hours-in-employment necessary to acquire a product. Watching a film at the cinema does not cost 10€ but one hour of my time that I would need to sacrifice in paid employment. In that sense, we should not speak of a "labour market," but rather of a "free time market" (Michalon et al., 2013), with money becoming "little pieces of laziness" (Malevich, 1921).

In capitalist settings, work and leisure become an entrapment. Work in order to "earn a living" to consume, and consume to make-up for discontentment about work.[2] Happiness in leisure is framed as something one has to work for – or more precisely something one has to find paid employment as to be able to purchase. Capitalist societies are made of "worker-consumers" (Gorz, 1988),[3] or as American sociologist Juliet Schor would put it, people are "overworked" (1992) *because* they are "overspent" (1998). Programs like unemployment benefits, free healthcare, and universal pensions participate in the partial decommodification of work for that it decreases the influence of financial incentives in the allocation of one's time. A job guarantee, a social wage, or a basic income goes in the same direction; it either guarantees an income or employment leading to an income. In effect, it decouples living from the obligation to work for a wage.

[1] It was John Bates Clark (1847-1938) who first argued that the marginal productivity theory that David Ricardo (1772-1823) applied to land could equally be applied to labour. Clark's point was that it was fair to reward workers based on their marginal contribution because "what a social class gets is, under natural law, what it contributes to the general output of the industry" (Clark, 1891: 319). Every person and every skill should then be measured by its ability to improve production and be remunerated on whether it manages to do so – one should "give to every agent of production the amount of wealth which that agent creates" (Clark, 1899: v).

[2] "Consumerism is interpreted as systematically chained to alienating work, not only as part of a structurally necessary expansion of commodity production and consumption, but also because moderns require stupefying escapes from alienating toils" (Gunderson, 2018: 22). Factory workers enjoy taking their car for a ride to forget they spend 40 hours a week assembling cars, a job they need to earn a living, for example to pay for the maintenance of their car.

[3] The abstract worker, who Gorz (1988 cited in Coutrot, 2018: 208, mt) calls the "worker-consumers," "produce none of what they consume and consume none of what they produce; [they are those] for whom the only goal of work is to earn enough to purchase commodities produced and defined by the social machine as a whole."

Voluntary simplicity entails a specific relation to time. "To live gracefully is to live within flowing rhythms as a human pace" (Segal, 1999: 160). This has repercussions for employment. Downshifters work only what is necessary to earn a living,[1] they prefer free time for autonomous activities than income for the consumption of commodities. This is what Gorz (1993: 61) calls "the norm of sufficiency": "limiting needs and desires in order to reduce the amount of effort required." To liberate oneself from the compulsion to work, one must learn the art of contentment.

For a qualitative conception of time

While work time reduction was aiming to liberate time out of employment (free time), the objective of postwork is to liberate time itself from an economic logic of optimisation (freed time). Paradoxically, the objective of "making" time (i.e. minimising working time as to have more hours available) goes hand and hand with the *unmaking* of time, that is the deconstruction of a specific social perception of time.

And here is the target: time considered as a form of temporal capital. In the world of temporal capitalism, time can be made, saved, spent, invested, lost, or wasted. Like in the film *In Time* (2011),[2] hours and minutes are treated as if they were money on a bank account turning the adage that "time is money" into a truism. This view is premised on the assumption that time is a scarce resource and that it should thus be managed efficiently, productively, or in other words, rationally. Making time scarce invites an economic logic into its management, or put another way, it is trying to *save* time that leads to its economisation.

The advent of wage labour and especially its denomination in hourly wages has been determinant in the creation of such ontology. If you do not work for a wage or if you work for a wage that is set per product (piece wage rate) independently of a set quantity of hours worked, it is difficult to measure your time in monetary equivalent. The hourly wage changes this by allowing activities to be compared in reference to the set value of an hour. If I get paid minimum wage in France, one hour of my time is worth 9.22€ and I can now easily calculate the opportunity cost of various activities from brushing my teeth (0.45€), a 20-min catnap (3.07€), the 45 minutes it takes me to queue to vote for the presidential election (6.95€). While this may seem far-fetched, the advent of micro-jobbing platforms such as *Amazon Mechanical Turk* or *CrowdFlower* do offer work 24/7 in a way that constantly places non-monetary activities in competition with paid work.[3]

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[1] The stance of simple livers towards work reminds of what Sahlins (1972: 79) called "Chayanov's rule" after A.V. Chayanov (1888-1937) well-known study of Russian farmers (Chayanov 1925). "The greater the relative working capacity of the household the less its member work." Indeed, it has been a common anthropological observation that people often work only until they meet their needs. Clastres (1972), for example, describes how the Guayaki people of Paraguay use a steel axe he had offered them to cut the same number of trees faster instead of cutting more. Same attitude for the workers described in Max Weber's *The Protestant Ethic and the Spirit of Capitalism* (1971: 60): "the opportunity of earning more was less attractive than that of working less. He did not ask: how much can I earn in a day if I do as much work as possible? but: how much must I work in order to earn the wage, $2^{1/2}$ marks, which I earned before and which takes care of my traditional needs?"

[2] Andrew Niccol's film *In Time* (2011) describes a future where people stop aging at 25 and are engineered to live only one extra year. Some people accumulate time (displayed on their wrist as a countdown clock) and with it the possibility to live millions of years while others run out of it and die. In this dystopian society, time fulfils the functions of a currency serving as a means of exchange, a measure, and a store of value – hence the term *temporal capital*.

[3] The testimony of crowdsourcing website Amazon Mechanical Turk workers reported by Reese and Heath (2016) explains how the 24/7 possibility of paid work invades family life: " 'I would wake up, ignore everything else,' said Milland. 'My family would prepare food and leave it here for me so I could eat while I worked. I would eat at the computer and I wouldn't see my family. If my daughter needed homework help she'd have to go to her dad. […] I was lucky that I was doing it at the peak

Time is the ultimate price tag because every single action takes time. If I go and watch a film at the cinema, I must use my immediately available temporal capital (the 2 hours I *spend* or *invest* watching the film) as well as some of my accumulated temporal capital (the 1 hour 24 minutes I spent working in the past to earn the 13 euros I need to buy the entrance ticket).[1] In both cases, I am thinking in terms of surplus of a quantified time, which acts as a standard of measure among competing alternative: Would "spending" time watching this film entertain me more than spending time watching another one? Would "investing" time into reading this 10-min article makes me more knowledgeable about the coronavirus than this 8-min long video? Should I exercise with a "7-minute morning yoga" or a "7-minute workout"? Seeing time as a quantity invites a more pervasive form of utilitarianism which leads to the opportunity cost syndrome (Chapter 4), generates anxiety, and reinforces an instrumentalist treatment of everything as a means to an end. In short, it creates an economy of time.

This is why degrowth should not only reject abstract work but also *abstract* (or *quantitative*) time, that is time as a quantity disembedded from any quality (e.g. an 8-hour day of work, a 2-hour class, or a 10-min exercise). The British "zero-hour contract" is a good example of this vision: workers should only be paid for the precise amount of time they spend working. This opposite would be *concrete* (or *qualitative*) time where one works until the task is completed, study until the material is learned, or exercised until the muscles are worked-out.[2] In a way, this comes down to anchoring the perception of time into solid natural or social events (e.g. day and night, seasons and harvests, spiritual and religious celebrations, public holidays) instead of the liquid melting of time as a constant 24/7 flow of undistinguishable hours. If time is seen as a quality (as I think it should), the singular and linear time of the clock is being replaced by the plural and cyclical time of nature.

This matters because perceptions of time affect our behaviour. Like many other things in a degrowth society, work should go from fast to slow. From a way of working – and through it being – that is "busy, controlling, aggressive, hurried, analytical, stressed, superficial, impatient, active, quantity-over-quality" to "calm, careful, receptive, still, intuitive, unhurried, patient, reflective, quality-over-quantity" (Honoré, 2004: 14). Autonomy takes time (to learn, to reflect, and to discuss) and so does care (to enter in resonance with the other beings we interact with). Andrews (2006: 200) says we should move in an "unhurried fashion": "being unhurried is a conscious choice in this culture, a choice that helps you experience life more fully. To be unhurried is to be relaxed, reflective, patient, intentional, leisurely, calm, unruffled, composed, and peaceful."

Time should also be measured less. This is why asking "how long will the workweek be in a degrowth society" is slightly paradoxical. In a society of concrete time, that answer would be simply: *enough* to provide for oneself and others we care about, sometimes a bit more sometimes a bit less, but nothing worrying enough to be worth being quantified and kept track off. It is only in a commodity society in fear of scarcity that time must be carefully measured;

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when my husband was home, because he was unemployed. […] If anybody hears the 'ding' that indicates high-paying work, they say, 'go, go, go!' ' "

[1] Even in the case of an activity that is free of monetary charge, I must still "spend" some temporal capital. This time cost is made obvious when the estimated reading time of an article is announced ahead as is often done nowadays in online media.

[2] Baschet (2018: 193) specifies that *concrete time* should not even be considered to be *time*, as by being concrete, it loses its commensurability with other durations. A moment I spend at the dentist and another I spend strolling the woods may be of equal duration, but incomparable still.

it is necessary to ensure that everybody is fairly remunerated *for their time*. In a society of frugal abundance, time-keeping in the workplace no longer serves any purpose. Durations have been replaced by moments, and clocks by hourglasses or just the rhythms of the sun.

But make no misunderstanding: my appeal to natural cycles should not distract from my main point, which is that time should be acknowledged as a social construction and as such become a political institution opened for negotiation. This is the "politics of time" so dear to André Gorz (e.g. 1999: 80), a "society of chosen time" where people would collectively take control of time and its organisation; a society where people would be able to determine their own tempos autonomously.

For a right to be lazy

As of today, it is unthinkable to answer "nothing" to the "what do you do question." This is problematic because it is busyness that currently drives social-ecological exploitation. And if that is so, degrowth then requires us to regain the ability to do nothing without shame.[1] "Our ability to do anything else [than work], only exercised in short bursts, is like a muscle that has atrophied" (Beckett, 2018). So rather than mind our business, we should rather mind our idleness (Morley, 1920).

A postwork imaginary requires a reconception of the duality between activity (busyness) and inactivity (idleness), and with it the boundary between productive and unproductive activity. This means changing the social imaginary of work. Today, productivism "sanctifies work […] and demonises idleness" (Gunderson, 2018), sustaining a cult of busyness.[2] This is so because is considered wealth only monetary wealth. But relaxing this assumption, one should acknowledge that many activities outside of employment are valuable. Put another way, postwork calls for the end of the hegemony of wage-labour over other forms of work, but also for the end of the hegemony of productive activities over unproductive ones.

This praise for idleness recalls several others in the past. The "gospel of leisure" that John Stuart Mill opposed to the "gospel of work" of Thomas Carlyle,[3] Stevenson's (1877) "apology for idlers,"[4] or Henry David Thoreau's critique of "incessant business."[5] "The lazy

[1] Here is a thought experiment proposed by Dean (2016: 50): "if you think you're free from this moral script, try an experiment; spend a whole day in bed doing absolutely nothing, then spend another two days being lazier than you've ever been before […]. Do nothing that could remotely be considered work. Observe your reactions during and moods during this period. (And if you do break through, and time stops, and you experience the unburdening liberation of simply being… congratulations – that's antiwork.)"

[2] In *Laziness as the Truth of Mankind* (1921), Kazimir Malevich writes: "Why is work so great? Why is it elevated ot the throne of praise and fame, while laziness is forced to sit in the pillory and all the lazy are shamed and have to wear the burden of viciousness; meanwhile the laborious are covered with fame, given presents and feasted? To me, it has always seemed like this is the exact opposite of what should happen. Work has to be cursed, as it has come down to us from the legend of Paradise, and laziness should be that towards which all humanity as to strive."

[3] "While we talk only of work, and not of its object, we are far from the root of the matter; or, if it may be called the root, it is a root without flower or fruit […] In opposition to the gospel of work, I would assert the gospel of leisure, and maintain that human beings cannot rise to the finer attributes of their nature compatibly with a life filled with labor […] the exhausting, stiffening, stupefying toil of many kinds of agricultural and manufacturing laborers. To reduce very greatly the quantity of work required to carry on existence is as needful as to distribute it more equally; and the progress of science, and the increasing ascendency of justice and good sense, then to this result" (Mill, 1850).

[4] "Perpetual devotion to what a man calls his business, is only to be sustained by perpetual neglect of many other things. And it is not by any means certain that a man's business is the most important thing he has to do. To an impartial estimate it will seem clear that many of the wisest, most virtuous, and most beneficent parts that are to be played upon the Theatre of Life are filled by gratuitous performers, and pass, among the world at large, as phases of idleness" (Stevenson, 1877).

[5] "This world is a place of business. What an infinite bustle! I am awaked almost every night by the panting of the locomotive. It interrupts my dreams. There is no Sabbath. It would be glorious to see mankind at leisure for once. It is nothing but work,

man does not stand in the way of progress" writes Christopher Morley in his classic *On Laziness* (1920), "when he sees progress roaring down upon him he steps nimbly out of the way. The lazy man doesn't (in the vulgar phrase) pass the buck. He lets the buck pass him." In this sentence, Morley perfectly captures an attitude of detachment that I find quite fitting with the goal of escaping the economy. It is the famous *pas de côté* of the May 1968 revolutionaries – not forward, not backward, but *sideward*.

Gunderson (2018: 2, italics added) offers a utopian depiction of inactivity that makes laziness not only a right but also a duty. "One activity that would also likely become more common is *inactivity*: idleness, inertness, and rest. To be clear, creative activities with low environmental impact would/should flourish in a degrowth society. However, there are perhaps no more 'environmentally friendly behaviors' or forms of "sustainable consumption" than idling or doing nothing as time passes, currently undervalued and long detested modes of being that should be re-evaluated for a post-work, sustainable future." Let us remember that "idleness" is one of the nine axiological categories of needs in Manfred Max-Neef's (1991) matrix of fundamental human needs.

Another valuable way to not work is to play. Ford (2016b) defines play as "the voluntary attempt to engage in recreation for the primary purpose of pleasure." Mincy (2016) differentiates between three types of play: locomotive play (e.g. climbing trees, running, hiking), social play (e.g. charades, sex, dancing, or hide and seek), and object play (e.g. Rubik's cube, piano, juggling). The concept of *game* is commonplace in the anti-work literature. Ford (2016b) after Suit (1978: 41) defines a game as "the voluntary attempt to overcome unnecessary obstacles." According to Suit, a game comes with its own goal, rules, and attitudes.[1] Checkmate is a goal that only matters on a chessboard and that can only be achieved under certain constraints (following the rules).

Some even argue that play and games are productive and that turning "creation into recreation" (Black, 1985: 22) will suffice to satisfy our needs. "Creating a new way of life based on play; in other words, a ludic revolution. By 'play' I mean also festivity, creativity, conviviality, commensality, and maybe even art. There is more to play than child's play, as worthy as that is. I call for a collective adventure in generalized joy and freely interdependent exuberance" (Black, 1985). What a simple and powerful way to capture the spirit of degrowth: *a collective adventure in generalized joy and freely interdependent exuberance*. Black links play and games to handicrafts and the arts and, in the spirit of Charles Fourier, argues that most work can be framed as play. Same for Gillis (2010: 135) who speaks of a "ludic society," that is "a culture that adapts its tasks into play."

The postwork appeal to a ludic society should be clearly distinguished from the increasingly popular gamification of work. Gamification consists in making work tasks more game-like with competition and rewards as to boost productivity. As I defined it, play is the opposite of labour and so is completely detached from any work concerns. There is a crucial difference between *work-play* (gamification of work, that is play for productivity) and *play-work* (the ludic society Black talks about).

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work, work. […] I think that there is nothing, not even crime, more opposed to poetry, to philosophy, ay, to life itself, than this incessant business" (Thoreau, 1863: 1-2).

[1] "To play a game is to attempt to achieve a specific state of affairs, using only means permitted by the rules […] where the rules prohibit the use of more efficient in favour of less efficient means, and where the rules are accepted just because they make possible such activity" (Suit, 1978: 3).

To develop this point, let me return to one of my doctoral expertise: the nap. I hold the nap to be the perfect symbol of this eco-friendly, tranquil state of being. A nap is a necessary time-out for individual, social, and ecological regeneration. Paradoxically, although taking a nap might seem like the definition of inactivity, it becomes a revolutionary act of disobedient indolence in the current work-centred culture.[1] "To nap is to resist" affirms Vianlatte (2019) after Thierry Paquot's (1998) *L'art de la sieste* (The art of the nap, mt). The proverbial "sleeping on a problem" might be a wiser approach than frantically trying to find a solution for it. (If we had taken more naps following Rachel Carson's *Silent Spring* (1962), one would probably hear more birds and less chatter about biodiversity loss.)

What is done outside of work should become the main source of identity and recognition. Unemployment is experienced as a social catastrophe today because it is exclusionary. If most of your social life consists of hanging out with colleagues, the end of work is the end of sociality. Paid work can surely be one way of interacting socially but it should not be the only one. To say it differently, employment should not hold a monopoly over the satisfaction of a fundamental need. In a postwork society, neither people's participation in society nor their identities should be dependent on their employment contract.

The shift is revolutionary. The expected answer from the "what do you do" question goes from singular to plural; not "what are you paid for," but "what are you using your time for." So what do I do? I love to play chess, read utopian novels and write about the history of economic thought, discuss philosophy with my friends, spend time with my romantic partners, sing in the woods, among a myriad of other activities. The fact that I am actually employed by the university to teach economics and research degrowth seems like a trivial detail in the whole adventure that is my life, and telling the people I meet about my source of income feels as uninteresting as describing a film by explaining who financed it. If most of who you are is what you employed for (I work therefore I am), the end of work is the end of individuality. But we should not conflate what people are paid to do and what people *are*. In the same way that a post-consumerism culture would have decoupled the formation of identities from the purchasing of commodities (I am what I buy), a postwork culture would do the same with employment (I am what I do for money).

For a post-professional ethos

The world of work is a world of *professionals*, people who have excelled and specialised in one trade and sell their specific service to society. Education is organised in specialities as to allow individuals to reach an expertise. In France, as early as age seventeen, teenagers are asked to choose a *métier* (a trade). They are then following a *career* as to finally find their ways, their calling, vocation, line of work, line of employment, metier, trade, craft, or occupation. Once they have found it, the story goes, they must keep it for a lifetime until they retire.

The Oxford Dictionary defines profession as "a paid occupation, especially one that involves prolonged training and a formal qualification." The difference between a professional

[1] I made the personal experience of this when I was told by a French university official, politely but firmly, that it was inappropriate for me to nap inside the university building. A disguised order that I have naturally opposed. In response, I started taking my naps as conspicuously as I could, sometime bringing a large blanket, a pillow, and one of these pointy sleeping hats to the floor of a busy corridor – a form of civil disobedience I refer humorously as *napctivism*. This was my desperate, and I admit silly, attempt to argue that workism should be kept at bay from universities.

chess player and an amateur one is the wage and the diploma. Even if I were the strongest chess player on Earth, I would still be an amateur chess player and a professional economist because I only have diplomas and get paid for the latter. Here lies the subtle difference between the *specialist* and the *professional*: professionals are specialists who sell their craft.

The cult of the career means that, in choosing their career, people may neglect occupations that cannot be sold. In effect, it is the labour market that sets direction as to what tasks deserve to be improved.[1] It is quite fitting that the word "profession" also means "a declaration of belief in a religion" to denote the vow made on entering a religious order. Choosing a profession (and becoming a professional) is akin to make a vow on entering the religion of work and economy. The idea of "professionals" is anchored into the work ethic: if I dedicate a lot of effort to work, I should be rewarded with respect, pride, and most importantly, with money. It is not surprising that in a work-obsessed culture, everybody wants to become a professional.

Paradoxically, the notion of *professionals* is a quantitative, and not qualitative, understanding of work. Every trade can be turned into a profession. Professional assassin, professional therapist – it does not matter what service is being rendered to society for that respect is blind to the task and solely rests on aptitudes. In a work society, the talented assassin commands more respected than the sloppy, incompetent nurse.

For Ivan Illich (e.g. 1971), this over-specialisation is problematic for that it deprives individuals from the ability of providing for themselves. To give birth one must go to the hospital and be serviced by midwives; to settle a dispute with a lover, one must go to court and be serviced by lawyers; to build a house, one must get a construction permit and get serviced by an architect. It is not that these skills and activities are unnecessary, to the contrary assisting childbirth, resolving conflicts, and building dwellings are crucial trades. What Illich argues is that these all too important tasks should not become the monopoly of a small crowd of experts asking money for their precious skills, which would limit their access to a minority of privileged people. This would effectively create skill-based castes with experts dominating the non-experts, and this at the expense of the potential for direct democracy.

Critics will be quick to say that specialisation has overwhelming benefits in terms of productivity, which ultimately saves us time. What is overlooked is that professionalisation has a time-cost too. To have dentists, one must train dentists. Sometimes, retaining an expertise becomes a goal for its own sake. For instance, as specialised scholars (e.g. me in degrowth), we must necessarily read what is being published in our specialised field. Currently, there are more and more publications of decreasing quality, which means that more time must be spend reading worthless literature than actually discussing or writing, which would be better at developing our craft. Being an *expert* has become more important than fulfilling the tasks that this expertise allowed in the first place (e.g. consulting decision makers about economic policy, educating others, and answering research questions).

Even if it does save time, it does so at the cost of conviviality. Professionalisation goes hand in hand with commodification and consumerism. In order to fix my computer or fill a

[1] I still remember a career leaflet I was given by the designated "career advisor" at my high school. The document ranked a diversity of jobs based on annual salary. I must admit, now shamefully, that choosing economics as a topic of study was mainly motivated by the fact employees with a degree in economics earned relatively more that those holding an equivalent social science degree.

cavity, I must put myself in a situation of passive consumer; and as the holder of professional, expert knowledge, I must sell my services dear. If the IT technicians would show me how to fix my computer, I would no longer need their service. In societies where most satisfiers of human needs are commodified, one must "earn a living" and so that entails a retaining of information and knowledge from those who currently derive their income from it. This is another case of economic rent: professional derive benefits from exclusive possession of a scarce factor of production (their skill), in excess of the cost of bringing that factor into production (this is the definition I used in Chapter 9, from Ryan-Collins et al., 2017: 39).

What is the alternative? Baschet (2014: 89, mt) writes about a "society of general de-specialisation" where, instead of dividing labour further, people would reclaim a diversity of tasks. His description of such society is worth quoting as length: "the one same person could successively or simultaneously make bike tyres and sit in self-governance committees grow tomatoes or corn and share math problems with kids from the neighbourhood, participate in the making of a cooperative software and in cleaning, not to mention, among the thousands of topics open for exploration, from the passion for the anthropology of rites of passive to the literary art of beetles" (ibid. 106, mt). We are back to the idea of *job complexes* than Albert and Hahnel (e.g. 1990) describe in their Parecon model.

Of course, this is not a plea against specialisations and experts. In a degrowth society like in any other, some people will spend more time on certain topics, making them more able and knowledge than others. (The very dissertation that I am writing could have not been possible without a high degree of specialisation.) What matters is that this know-how is not retained and used to perceive an economic rent, or more generally as a means of domination.

Policy instruments for postwork: Job guarantee

Postwork yes, but how? The idea underlying this part is that a *job guarantee* can be an instrument for postwork (granted it is designed in a specific way). But before defending that perhaps provocative claim, let me prepare the ground by defining what a job guarantee (hereafter JG) is. My favourite definition is from Wray et al. (2018: 35): "a permanent, federally funded, and locally administered program that supplies voluntary employment opportunities on demand for all who are ready and willing to work at a living wage." In essence, a job guarantee gives public authorities the duty to fund the employment of anybody who wants a job but cannot find one in the private "labour market." The proposal is sometime also referred as "universal job guarantee," "guaranteed employment," "public service employment," "buffer stock employment," and "employer of last resort."[1]

[1] The name "job guarantee" has a number flaws. The term "job" reinforces the idea that work is a private matter and that labour is a neatly delimited act that one *has* or that one is *given*. Moreover, it invites to think of work as a quantity, which as such can potentially be scarce. As for "guarantee," this is what makes the proposal attractive in a work-centred society: it promises that scarce thing which one wants at all time.

The idea of job guarantee is not new,[1] even though it has remained an unorthodox policy with only a handful of applications around the world.[2] Its advocates point to how it can reduce exclusion and poverty, guarantee full employment, maintain price stability, and boost economic growth. Its detractors accuse it of being inflationary, unaffordable, unavoidably bureaucratic, reducing incentives to work, polarising, overly optimist concerning the skills of the unemployed, creating make-work, and posing a risk of crowding out jobs from the private sector.[3] In the degrowth literature, it is lauded for its ability to reduce unemployment without relying on economic growth (Unti, 2012; 2015; Alcott, 2013). Here I place JG as a policy instrument for postgrowth because I believe it could be designed to achieve more than that. As I intend to show, a JG designed for degrowth could be a stepping stone towards a revolutionary alternative way of organising, not only work for those who lack it, but *all* forms of work, eventually leading to a commons-like way of organising production (what some would call *economic democracy*).

The design that I am about to propose is inspired by the French "*Territoires Zéros Chômeurs de Longue Durée*" (Zero long term unemployment territories, and hereafter TZCLD). The TZCLD is an initiative of the nonprofit association *All Together in Dignity (ATD) Quart Monde* whose initial purpose was to fight poverty and exclusion. The experimental scheme was voted by law in February 2016 (n°2016-231), started in January 2017 in ten cities all over France, and is still running today. As of December 2018, the scheme had helped 1,112 people to find a permanent job, 70% of them within the newly created 11 "for-employment companies" (TZCLD, 2019).

(1) For whom?

Short answer: any adult *able*, *ready*, and *willing* to work. All three words matter starting with "any" which means that a job guarantee scheme is open to all members of a community (living in the territory since at least six months is a condition in the TZCLD scheme).

People who *can* work: who are physically, psychologically, and geographically able to engage in production. "Ability" here should be understood as proficiency, but rather as a matter of context. This is one of the starting assumption in the TZCLD project: nobody is un-employable as long as the job is tailored to the unique knowledge and skills of each individual.[4]

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[1] The idea of a JG has a long history, at least in American thought (Kaboub, 2007; Stein, 2018). Kaboub (2007) traces the proposal to several authors. Dewey (1919: 420 cited in Kaboub, 2007: 295) advocated for the right "to every individual who is capable of it, to work […] not breaking stones in a stone yard, or something else to get a soup ticket with, but some kind of productive work with a self-respecting person may engage in with interest." John Pierson's (1941) "Economic Performance Insurance" in which the state would "stand ready to step in as employer of last resort; or step out, when necessary – [as] disemployer of first resort." John Philip Wernettes' "Full Employment Standard" (1945) with the Federal Reserve allowed to create new money to finance budget deficits. In *Full Employment in a Free Society* (1945), Williams H. Beveridge assigned the government with the responsibility to make sure there was "always more vacant jobs than unemployed [people]." The most prominent 20th century advocate of the JG is probably Hyman P. Minsky (1965, 1966, 1986) who revived the idea in the mid-sixties and continued promoting it in the following decades.

[2] The *Plan Jefes y Jefas de Hogar Desocupados* (Program for Unemployed Male and Female Heads of Households) in Argentina (2001), the *National Rural Employment Guarantee Act* in India (2005), the *Public Service Employment* and the *National Investment Employment Corps* in the United States (both remaining at the stage of mere proposals), and the *Territoires zéros chômeurs de longue durée* (TZCLD) in France that has been running as an experiment since 2017.

[3] For criticisms of the job guarantee, often in its American design, see Bruenig (2017), Roth (2017), Chait (2018), Baker, (2018), Waldman (2018), Ozimek (2018a, 2018b), and Matthews (2018a, 2018b).

[4] On 15 October 2015, a group of job-seekers in the cities that would become the first territory in the TZCLD engaged in an "unemployment strike" where they spent a full day voluntarily working in fulfilling unattended community needs.

The geographical factor adds to this: people can work if work happens in the vicinity of where they live.

People who can work *now*: they must be at a point in their life when working is considered appropriate. Because employment is a right, nobody should be excluded from it. This means that there is no selection among candidates; in fact, every "candidate" becomes a participant by the mere fact of being interested in being one. (Even though the system gives priority to the most vulnerable people, the one who are the furthest away from employment.)

People who *want* to work: only those who voluntarily choose to engage in the scheme. Making employment a right does not make it a duty. Many people find meaningful ways to contribute to their community via wage labour or volunteering, and so for them the JG will be of no use. The JG is an institution to help those who do not manage to find meaning in their current activities and who want to change that.[1] Keeping it voluntary avoids legitimating a culture where one is expected to work – employment should be made a right but not a duty.

It is also important to note that the scheme is permanent. Here lies the difference between a JG and the large public employment that occurred under the Roosevelt administration at the height of the Great Depression.[2] The New Deal was not a true JG since it was limited in the number of people it could employ and since the scheme was temporary (Kaboub, 2007). That also makes it different from temporary public employment like the French "civic service," the Hungarian "public employment system," and the Irish "community employment programme."

(2) What kinds of jobs?

It is crucial that jobs should not be determined in advance.[3] In fact, they cannot be pre-determined if they are to be fitted to the abilities and aspirations of the participants (to avoid creating "bullshit jobs") and to the needs of the community (to avoid creating "batshit jobs"). Instead of the current unemployment assistance that tries to fit workers to already existing jobs, a JG fits jobs to the already existing job-seekers. And instead of letting the market or the State decide what tasks should be performed, it is the community as a whole that collectively decide what needs remain unfulfilled. It should aim for the dual goal of creating activities that increase individual's capabilities while pursuing a social benefit in the community.

And indeed, one objective of the scheme is to create a forum where one can propose to both create jobs that do not yet exist and destroy ones that should not exist anymore – it is a "space for imagining the jobs of tomorrow" says a participant interviewed by Hédon et al., (2019: 199, mt). This is crucial for the decommodification of labour. Instead of a commodity that is bought and sold on a market with both buyers and sellers pursuing economic interests, work becomes political with social and moral incentives taking precedence over pecuniary ones. This being highly contextual, it is of utmost importance that what is considered "work"

[1] The JG should not be confused with the so called "workfare" referring to the work-based welfare reforms introduced by Bill Clinton in 1996. Whereas workfare requires recipients of benefits to accept any job that is offered to them to not lose their aid, the job guarantee is *voluntary*; people who cannot and/or do not want to work will still be able to apply to traditional benefits.
[2] From 1935 to 1943, the U.S. government became the larger employer of the nation, putting 8.5 million people to work in a diversity of tasks ranging from repairing schools, road, and bridges, building airports, parks, and hospitals, delivering library books and meals, and stitching clothes, to installing water lines and performing concerts (Paul et al., 2018: 54).
[3] This distinguishes the JG from private jobs partly subsidised by the State, like the French "*emplois aidés*" (helped jobs, mt).

is regularly re-evaluated and discussed in local councils following the precepts of participatory democracy and in (critical) consideration of national labour laws.

This is one advantage that the JG has in comparison to a Universal Basic Income (UBI): it institutes a constant reflection over what should be considered work, which tasks should be performed, by whom, and how. Whereas a UBI enables *individual* autonomy (I decide to remunerate myself with the income for the tasks I consider useful), a JG deals with *collective* autonomy (only collectively can we agree to remunerate such and such task). For example, nobody can prevent me from using my basic income to remunerate myself to memorise digits of Pi, which I personally find entertaining. In a JG situation, however, all the actors involved in the scheme would need to be convinced that memorising digits of Pi is a worthwhile thing to do, both for me and for the community. Certain jobs that are considered socially or ecologically useful today may cease to be tomorrow and so the JG is an institution that hosts a constant democratic discussion over what people of the community spend their time doing.

Of course there are limits. To say it briefly, guaranteed jobs should be decent jobs.[1] Socially useful and ecologically sustainable work, that pays attention to the distribution of undesirable tasks, does not harm health, endanger safety, and erode dignity, leads to fair and secure remuneration, and that guarantees the autonomy of workers inside and outside of work (here I am merely repeating the criteria of decent work from Goal n°5).

Earlier, I have argued that the State should tax – as well as divest from – problematic sectors (e.g. fossil fuels, weapons and chemical industries, advertising) and should subsidise the socially and ecologically beneficial initiatives that are struggling financially. One way of doing that is to provide these initiatives with labour free of charge. In that sense, the JG is effectively a subsidy of paid labour time to activities that the market does not consider to be valuable although the broader community does so. These are usually the activities degrowth argues should expand.

Just to illustrate, I will now give three sets of examples of jobs coming from four different community employment schemes: two from the United States that are still at the level of proposals (NIEC and PSE), the TZCLD currently running as an experiment in France, and the current proposal that I develop in the context of degrowth.

Examples of jobs cited in the *National Investment Employment Corps* (NIEC) include the repair, maintenance, and expansion of the nation's infrastructure, housing stock, and public buildings; energy efficiency retrofitting; ecological restoration; engagement in community development projects; preschool and afterschool services; teachers' aids; elder care and companionship; supports for the arts. As for *Public Service Employment* (PSE): installing playground equipment, planting vegetation, renovate and beautify urban spaces, adding insulation to housing and community building, community clinics, urban fisheries and aquaponics, veteran services, and youth mentoring.

In the *Territoires Zéro Chômeur de Longue Durée* (TZCLD), the majority of jobs created were green jobs (39.2% of the 838 jobs), with the remaining 36.4% dedicated to social cohesion and 24.4% to local economic activity (TZCLD, 2019). Examples include: cleaning up

[1] In the TZCLD, new jobs cannot be in competition with already existing ones – this is what they call the "supplementarity rule" (TZCLD, 2019, mt). This is usually not an issue for that the new jobs come to fulfil a need that was previously unattended. From a degrowth perspective, however, this constraint should be lifted if the goal is to cause an exodus of workers from wage-labour in for-profit firms to community jobs.

construction sites, delivering groceries, ambulant outlets for local businesses, sorting out of metal waste for recycling, kitchen help, cleaners, light administrative work (e.g. archiving, tidying up storage spaces, for example at the local library), energy efficiency diagnostics, production of firewood and compost, waste picking and the cleaning up of water streams, security for the end of school day, manual weeding, construction of public benches, running of local museums, fixing computers, a garage and car rental services, organisation of events (the Vinyl Fair), and the maintenance of wooden areas. To these should be added completely new tasks such as the "*animateurs de liens sociaux*" (social relationships facilitator, mt) who collect old stories from elders about local traditions.

In a degrowth context, examples of activities could include farming and gardening, running associations (e.g. local currency or time bank, Community Supported Agriculture, repair café and second-hand shops, communal kitchens, fablabs, or ethical councils for technological audit); elder care and child care cooperatives; organising neighbourhood parties; local journalism and update of Wikipedia pages; research including transdisciplinary, citizen science projects; accompanying children to school in walking buses; education (unemployed graduates could run popular education courses instead of being forced into unpaid, bullshit internships), or whatever a community might think be worthy of their time.

(3) Paid at what wage?

I say "wage" for short but it is more precisely an *allowance*.[1] This difference between wage-labour and community-labour is subtle but crucial. On the one hand, people work to get a wage (earning a living) whereas in the case of the allowance, they receive remuneration so they can work (living on earnings). People do not work to earn a living but are rather remunerated so that they can start – or continue – taking care of the community.[2] In a way, the wage becomes peripheral to work because it ceases to be a measure of social utility. If anybody is employable and if any community need is worthy of someone's time and effort, then the definition of work breaks the boundaries of wage-labour.

The allowance should be set at a level that is sufficient to live a frugal life. As of today, it must start at minimum wage (€1,200 monthly after taxes or around €8 per hour)[3] and, following a living wage rationale, possibly be higher in territories where life is more expensive.[4] A JG wage larger than national minimum wage might even incite workers in the private sector to transition to community work, especially the one with the lowest salaries (e.g. the minimum wage could be set at €1,200 but for 32 hours per week instead of 35 hours). In cities that have

[1] Let us avoid misunderstandings. The wage one receives from a guaranteed job is not a conditional cash transfer. This is not a work-fare scheme where participants are expected to partake in certain training or community work in order to not lose financial assistance (this is the case in the Haut-Rhin region in France where recipients of the *Revenu de Solidarity Active* (RSA) are expected to perform seven hour of volunteer work each week.) In a JG scheme, participants receive, not benefits, but a *decent wage* to the same title as any public employee.

[2] This idea of receiving a wage to be able to work (and not the opposite) resonates with my current situation as a researcher. I consider my monthly salary a stipend allowing me to attend to my basic needs while being able to conduct my research. I do not write this dissertation to earn a living; my living is paid for so that I can spend my time writing this dissertation.

[3] In the American *National Investment Employment Corps* proposal, the yearly wage ranges from $24,600 (corresponding to the poverty line for a family of four) to $32,500 depending on career advancement and regional variations. In the *Public Service Employment* (the other American proposal), a uniform wage is set at $15 per hour ($31,200 per year). Both offer a wide range of benefits including health insurance, retirement plans, childcare, paid family and sick leave, as well as paid vacation.

[4] Using the Cost of Living Index developed by the website Numbeo, living in Paris is 30% more expensive than living in the Northern city of Lille. If the minimum wage is set at €1,200 in Lille (the current national level), it should then be €1,560 in Paris.

a running local currency, part of that wage could be paid in local money. As complementary currency networks develop in number and span, one can expect this portion of the JG wage to increase.

(4) Working hours?

With a sufficiently large community sector, the JG could set a new standard of slow, decent, and sustainable work. In order to contribute to an overall work time reduction, the full-time of community work should be lower than both average time spent in wage-labour (37.3h) and the legal workweek (35h). And that it is, the JG can be a strategy to incentivise WTR in the whole economy.

With a community employment scheme in place, private workers who are dissatisfied with their working conditions always have the possibility to quit their private jobs and accept a community one instead. To retain workers, one may expect firms to provide working conditions that are at least as good as the public ones. If community jobs are paid minimum wage (€1,200) for a 32-hour workweek (so around 10% more per hour), one may expect that those working in precarious, ill-fitted, and distant from home jobs in the private sector will prefer finding a job tailored to their skills, secure, and close from home, and especially if it is better paid.

Having said that, there is no pressure to shrink working hours in a community work scheme. This is because the hours worked for the community are likely to be lower in environmental pressures (because labour-intensive), less rival in terms of employment possibilities (because there is no fixed lump of community labour), and directly spent in the commoning activities that would have require to liberate time from employment (these were the three reasons to motivate work time reduction: *share employment*, *reduce throughput*, and *liberate time*). This being said, the tendency should nonetheless be towards working less, except for those who engage in community activities autonomously, for example for social fun – it is at this point that the difference between *work* and *play* disappears, like in the "ludic society" utopia described by Bob Black in *The Abolition of Work* (1985).

Furthermore, the creation of new categories of jobs is the opportunity to break down the division between full-time and part-time work. Instead, one should see work as a spectrum with a unique number of hours fitting every individuals' and community's need; certain people only want to engage in paid work for a few hours and certain needs only necessitate a few hours of work, while the situation might be different for other people and other community needs.

(5) Managed how?

A job guarantee scheme should be run locally. Reporting on the TZCLD, Hédon et al. (2019: 283) suggest that the territories remain between 5,000 and 10,000 people. If it is not the State or the market that should decide what tasks deserve to be remunerated but the community itself, that community must be small and cohesive enough as to be able to congregate and agree on collective needs (something hardly doable at the national level).

In the JG I envision, tasks are not set in advance but selected in a bottom-up manner by all stakeholders in a democratic manner. This goes against the current trend of privatisation of work where employment is often experienced and imagined as a personal relationship between employees and employers (Weeks, 2011). In a JG, communities manage work as a commons:

it concerns work *in* the community (local), *for* the community (socially useful), and *by* the community (self-managed and participatory). In that sense, it does not only address poverty but, more fundamentally, exclusion from productive activities.[1]

In the TZCLD experiment, there are two core structures that manage the programme. The first one is the "*comité local de l'emploi*" (local employment committee, mt) that is presided by the Mayor and includes all the relevant stakeholders from the community (entrepreneurs, business owners, private and public employment organisations, associations, inhabitants, people without a jobs, and public authorities).[2] This structure would be the core unit of a labour commons under a job guarantee scheme. It falls upon the committee to conduct the inventory of current needs and the means of satisfying them. Including potential employers is important as to share the burden of un-employability so that both employees and employers walk toward each other, instead delegating that task to job-seekers only.

One could imagine a digital platform with all members of a community crowdsourcing a number of tasks they want to see performed and ranked in importance.[3] On the other hand, the unemployed could themselves go through a similar process, this time perhaps with the help of trained counsellors, in order to translate their skills and aspirations into actual tasks. The final matching process would then occur in the local employment committee via democratic deliberation. The local employment committee would be the beating heart of local economic democracy.

The second structure is the firm that employs participants. The "*entreprise à but d'emploi*" (for-employment company, mt) is created either from nothing or from an existing association or company. It is explicitly *for-employment* because its mission is to create jobs. While the one in TZCLD is governed by ten principles,[4] I will only say here that it should be the type of business that I have described in the previous chapter. Its mission is already defined: provide jobs to those who want to work and in a way that fulfils community needs. If at the start, a for-employment company might handle a diversity of task just like a labour mutual, it could later on, after reaching a certain size, divide into smaller units with more specific mission (i.e. each focusing on a particular need of the community). These firms should remain small (under 80-100 in the TZCLD scheme), be self-managed by the workers and co-owned by community stakeholders (they should be, in a word, social enterprises). Once created, the *for-employment firms* become sitting stakeholders of the *local employment committee*.

[1] The argument seems overly naïve when made at the scale of a nation, but think of a smaller community. Let us say a family preparing a meal together. It would seem natural that, for the sake of inclusion, everybody is presented with the possibility to contribute, even though certain individuals may slow down the process (e.g. children or people used to a culturally different way of cooking). In such situation, the fairness goal (inclusion) overrides the efficiency goal (fast production of food). Why would such logic cease to apply at the level of the neighbourhood, city, or even country? In a small social unit, there is no need for money or wages and all guaranteed work is volunteer work. The idea behind the JG (and work in a degrowth society) is to organise work within a larger social unit while retaining the principles of inclusion and equity.

[2] Are considered local the firms and organisations that have their headquarters inside the territory and produce goods and services that are sold locally.

[3] In their *Public Service Employment* scheme, Wray et al. (2018: 36) propose to create a "Community Jobs Bank" to serve as a repository of various employment opportunities.

[4] Hédon et al. (2019: 228-46, mt) enunciate 10 principles: self-management, transparency and trust, rejects no one, fire only in last resort, no hierarchy, focus on improvement employees' capabilities, make it a collective adventure, be demanding yet caring, "escape the dictature of short-termism," and "escape the dictature of economy."

(6) Financed how?

An appealing feature of the TZCLD scheme is that it is almost cost-neutral. In their macroeconomic study of the initiative, Abrossimov and Prost (2017) calculate the public expenditures related to unemployment: direct costs (e.g. unemployment benefits, budget of *Pôle emploi*, and diverse allowances like RSA, AAH, or APL), the loss of revenues in income tax and *cotisations sociales* (social contribution), and indirect costs in terms of housing, health, and security. Result: in 2017, the total cost of unemployment was €42-50 billion per year, this representing between €16,027 and €18,896 per job-seeker (nearly 2.7 million people at that time).[1]

In 2018, the average cost per jobs in the scheme was €26,000, including the €18,255 wage and its charges (Hédon et al., 2019: 205). So the recycling of unemployment-related expenses already finances 67% of the final cost of one community job.[2] Out of the remaining €8,500, one can deduce the revenues of the for-employment firm (€3,700 in average per worker for the year 2017, out of total revenue of €1.8 million), then leaving a need for extra funding of €5,000 per worker.[3] To be independent from this extra funding, the for-employment firms must multiply their revenue per worker by 2.35 to reach €8,700 per worker annually. But this is only possible if the firm produce goods and services that can be sold.

Another option would be to pay the remaining portion of the wage (33% of the wage, so around €500 per month before taxes) in complementary currency. If all the activities available for purchase in local currency are actually those performed by community workers paid in local currency, then there is no need for external funding as the currency would just circulate within the community. If the local currency is being converted back into national currency, however, the need for external funding remains, although perhaps delayed in time if people do not convert their local currency in euros as soon as they receive them.

Of course, one should understand that the financing issue changes considerably with an increase in the scale of the scheme. The unemployment-related expense of the government accounts to 67% of a wage because there are only 2.7 million job-seekers. Should one add to this 5 million people transferring from the private sector to community jobs, then this stock of money would only pay for 23% of a full-time wage. To be sustainable, a community scheme requires a permanent source of funding, just like the autonomy allowance described in the previous chapter.

From a degrowth perspective, postwork is associated to **5 objectives**:

- to emancipate from the work ethic,
- for concrete work,
- for a qualitative conception of time,
- for a right to be lazy, and
- for a post-professional ethos.

[1] For the €50 billion estimate: 45% is direct costs, 30% loss of potential revenues, and 25% indirect costs.
[2] Most of the activities performed in the scheme are labour-intensive and so only involve a small part of non-labour related expenses – less than 25% (Hédon et al., 2019: 208).
[3] In the scheme, these ended up being financed by the State (€2 million in 2017 and €1.6 million in 2018),

In order to achieve these objectives, I have proposed a **job guarantee** that should:

- be open to anyone able, ready, and willing to work;
- creating only decent jobs
- paid at a living wage (at least minimum wage)
- at an average working time lower than in the private sector;
- managed locally and democratically; and
- financed by a recycling of State expenses and taxation.

Conclusions for Chapter 10

FROM a degrowth perspective, transforming work means working less (*working time reduction*), in better conditions (*decent work*), and reducing the importance of work in society (*postwork*).

The first goal is to reduce time spent in employment. **Work time reduction** aims at redistributing available hours of paid employment, reducing biophysical throughput to ensure ecological sustainability, and liberating time for self-determined activities. To achieve such objectives, I suggested to reduce time spent in paid employment by half (this is a rough estimation) while giving a number of options regarding the form it could take (e.g. Friday off, 6-hour workday, daily naps, red days, or work breaks) and how it should be organised (through collective agreements, established in national law, flexible in its implementation, and financed via progressive taxation).

The second goal is to ensure that all work is **decent work**, meaning it is compatible with the values of degrowth. Following the principle of care, work should be socially useful and ecologically sustainable and it should not endanger workers' health, safety, and dignity. In terms of sufficiency, all workers should be guaranteed fair wages and benefits and the undesirable jobs should be equally distributed. As for autonomy, decent work should empower workers to become their own bosses. As a policy instrument, I suggested the overall practice of self-management understood as democratic decision-making regarding the purpose, methods, and organisation of production.

The third goal is **postwork**, a shift in the perception of work in the social imaginary. The work ethic and the cult of employability should be opposed. Work should no longer be motivated by the abstract pursuit of money and should instead focus on the concrete satisfaction of fundamental human needs. Time should cease to be treated as a commodity to become qualitative and concrete. What happens outside of work should not be considered a mere residual but the essence of life itself. And limits should be put to the specialisation of professions for the sake of conviviality and democracy. To achieve this goal, I designed a locally and democratically managed job guarantee scheme that would create decent jobs with living wages and light schedules for anyone able, ready, and willing to work.

Chapter 11

Transforming money

IT has become common to argue that money is to us like water is to fish, and so to keep up with the analogy, degrowth could be likened to fire as it has no probability of emerging while immersed in the current monetary system. The dangers of today's monetary and financial infrastructure are now well-known: pro-cyclical monetary creation (banks are more likely to lend during booms), asset price inflation, private appropriation of seigniorage and control of the money supply by the banking sector, growth pressures and competitive behaviours impelled by debt-money, wealth concentration, financial instability, as well as an inclination for short-term financial returns on investment.

The assumption that structures the chapter is that these varied issues find their cause in three features of modern money: the fact that (1) it takes the form of a general-purpose currency, (2) that it is created as debt by for-profit commercial banks who hold a monopoly over monetary creation, and (3) that it circulates unregulated in a financial environment organised around the pursuit of monetary gains. Hence the triple objective of this chapter: designing a plurality of special-purpose monies (*monetary diversity*), regaining democratic control over monetary creation (*sovereign banking*), and regulating financial markets (*slow finance*).

Why *transformation* and not *abolition* of money? If money is the vessel of the growth-at-all-costs logic, should we not just get rid of it? Paradoxically, the disappearance of money is not the goal of phasing out money. What is desired is not moneyless exchanges per se, as precious as these can be, but rather all the relationships that make demonetarisation possible. Monies, in the various forms they can take, have an important role to play in that process. Whereas certain currencies reinforce the logic of growth, others downplay it. And so it is not incompatible to demand both less commodities and more monies. So as counter-intuitive as it sounds, it is possible to make money (create new currencies) in order to shun moneymaking (go against an economic system that celebrates financial gains).

Of all the topics in this part, money is the furthest removed from the concerns of degrowthers, to the point where all relevant writings can be summarised in a few paragraphs. Vitari (2014: 9) reviewed the literature on e-currencies to conclude that "nothing emerged, in literature, supporting the hypothesis that electronic currency could shape our society for purposive degrowth." Gerber (2015) pointed to LETS, social credit cooperatives, and negative-interest loans as credit systems compatible with a sustainable post-growth economy. Writing a

PhD dissertation on the topic, Dittmer (2014: 66 / 175) reported "no clear success stories of local currencies as drivers of degrowth" and concluded that "[local currencies] should not presently be given much priority by the degrowth movement."[1] Rather, the author recommended to invest time and effort in pushing for government-centred monetary reforms. In my opinion, not only did Dittmer underestimate the potential of alternative currencies, but he also made a critical mistake in missing the connection between the two proposals of complementary currencies and banking reforms.[2]

As for looser claims in the degrowth corpus regarding money, I group them in two families: one end of the spectrum wants to abolish money (*monetary abolitionists*) while the other end sees money as a useful tool for degrowth (*monetary reformists*).

The first strand of thought calls for *demonetisation*, a concept brought into the degrowth field by Exner et al. (2016). As understood by these authors, demonetisation means freedom from monetary relations. In a Polanyian line of thought, money is criticised for dis-embedding the economy from society and nature. As for examples of demonetised activities, they mention subsistence provision, reciprocity networks, commons, vouchers, gratuity, and barter. From this perspective, one should be suspicious of complementary currencies if they encourage a further economisation of the social-ecological (e.g. Schroeder, 2014).

The second strand of thought actively promotes monetary innovation. The most popular are alternative currencies (e.g. Gorz, 1999; Paech, 2008; Degrowth Barcelona, 2010; mpOC, 2012; Lepesant, 2013a; Latouche, 2009, 2019a; Cattaneo and Vansintjan, 2016)[3], full reserve banking and sovereign money (Farley et al., 2012; Videira et al., 2014; Alexander, 2016; Kallis, 2015c; Jackson, 2018: 30). Others include time banks (McGuirk, 2017), a new Bancor system (Bruyère, 2018: 192-205), and digital and cryptocurrencies like Fair coin or Ethereum (e.g. Cattaneo and Vansintjan, 2016: 36).

Here is a good example of this second attitude, found on the website of the Italian *Associazione per la Decrescita*. To the question "How to rethinking the power of the banks and the power of money from a degrowth perspective?" the short entry opens with a straightforward sentence: "Degrowth proposes the collective reappropriation of monetary institutions through their democratic, participatory, responsible, and ecological political re-organisation" (Decrescita, 2019, mt). Money, they argue, should be managed as a common good. It proposes an interest-free community credit system, managed by local government and based on its own unit measuring the value of the goods or service being exchanged. The *Associazione* supports the expansion of complementary currencies and of mutual and community credit systems. It

[1] As phrased in the entry Dittmer (2015: 150) wrote on the topic in *Degrowth: A Vocabulary for a New Era*: "community currencies have not significantly facilitated any voluntary departure from the growth path." For Dittmer (2013: 8), complementary local currencies may reap some benefits in terms of eco-localization, but not for fostering community-building, alternative values, and alternative livelihoods (these are the four criteria that he sets as the objectives of degrowth). Same opinion for Exner (2014: 20) calling complementary currencies "dead ends with little relevance to degrowth."

[2] Dittmer (2014) can be criticised for hunting for a silver bullet: "To the extent that the degrowth movement aims to address central governments with policy proposals for eco-localization, the first-best option would be a tax on transport fuels, not complementary local currencies" (Dittmer, 2014: 61).

[3] Latouche (2019a: 105, mt) points to local currencies as "the first step for the reappropriation of money" and defends the creation of "a genuine local monetary policy" in order to guarantee financial autonomy. "In money, there is always a bit of magic. And this is the source of the phenomenon of money accumulation: the value of currency is not only proportional, it takes the role of a fetish. To re-appropriate money fundamentally means to demythologise it, to demystify it" (Latouche, 2014: 31, mt). Money was also one of the seven policy themes of the French *Parti pour la décroissance* at the 2019 European Elections: "multiply currencies to weaken finance, re-establish public, local, regional, and national currencies, in parallel of a common currency put back where it belongs" (Décroissance élections, 2019, mt).

also praised ethical banks (granted they do not engage in speculative activities) and alternative systems of exchange like time banks.

In this chapter, I discuss the role of money for degrowth in four steps. As in the previous two chapters, the opening section deals with definitions. The three following sections attempt to redesign the problematic features of the current monetary architecture. **Goal n°7: Monetary diversity** deals with the *currency* question (what kind of monies for degrowth): replacing a hegemonic general-purpose currency by a diversity of alternative currencies. **Goal n°8: Sovereign banking** addresses the *banking* question (what kind of monetary creation and destruction for degrowth): taking the power of monetary creation/destruction away from private banks. And **Goal n°9: Slow finance** is about the *finance* question (what kind of monetary circulation for degrowth): reducing the types and quantity of financial activities to re-proportion the financial sphere in relation to the real economy.

Money from a degrowth perspective

What money *is* remains one of the mystery of political economy. As surprising as it sounds for such a seemingly mundane artefact, there is no commonly agreed definition of money (Dodd, 1994, 2014). Some see it as a process, others as a thing; some as a commodity, others as a social relation; some as an object, others as a symbol. People disagree with its origins and the source of its value as well as its function and effects in society.[1] The mystery will no doubt survive that short section for that its purpose is only to set the minimal framework necessary to study money issues relating to degrowth. I do so in three steps: defining what money is, categorising the different forms it takes, and explaining the way it is created today.

The origin and nature of money

In this chapter, I abide to a specific theoretical approach that Blanc (2018a: 33, mt) calls "monetary institutionalism." Its starting postulate is that money takes a variety of forms and meanings depending on the cultural context where it circulates. From this perspective, anything that enables the valuing of wealth and the settling of debts *is* money. This institutionalist vision of money translates into a number of theoretical commitments.

One must first reject the *neutrality of money assumption*. For mainstream economists, the type of currency one uses is neutral (in the sense of *passive*) because it does not affect either what is being exchanged or the relations created during that trade. For instance, inequality can take a monetary form but money itself does not generate inequality; money mediates the exchange of goods, but it does not incite it because it is only a tool (hence the name *instrumental view* of money). In the famous analogy of J.S. Mill (1806-1873), money is only a "veil" covering economic activities.[2] Money is no more than what it does, namely an instrument fulfilling three functions: a store of value, a unit of account, and a medium of exchange.

[1] It is "a claim upon society" (Simmel, 1900), a "total social fact" (Mauss, 1914), a "social reality" (Simiand, 1934), a "diffuse social media" (Zelizer, 1997), a "social relation" (Ingham, 2004), "an instrument of collective memory" (Hart, 2001: 234), "a generalised symbolic medium" (Parsons, 1968), and a "communal illusion" (Karatani, 2003).

[2] "for a respectable economist to seriously question the design of the money artefact ultimately responsible for these processes would be as unthinkable as it would have been for a fourth-century Roman to question slavery, or a fourteenth-century Easter Islander to question deforestation" (Hornborg, 2019: 16).

The counter assumption is that money has an active social life (Dodd, 2014). Choices regarding who can create money, how it is spent into existence, the medium it takes, and its rules of circulation unavoidably taint a currency with values and norms. Values shape money and money shapes values back (Evans, 2009). Any currency is a "programming tool" (Lietaer et al., 2012: 117) that generates its own form of rationality and social relations. This was already the point of German sociologist Georg Simmel (1907) more than a century ago: money facilitates the turning of things into commodities and of people into calculative buyers and sellers, turning sociality and morality into a matter of arithmetic.[1]

It is because culture shapes money that it is infinitely diverse – not money but moneys or monies. "Money multiplies" writes sociologist Viviana Zelizer (1994), meaning that people create new forms of money to express cultural values. Instead of a colourless, interchangeable, impersonal instrument, money is constantly charged with cultural meanings and altered by social practices. Within a single currency, not all euros are the same because people create distinct emotional categories that affect what one does with it (e.g. euros saved for holidays, euros won at the lottery, or euros earned via the selling of illegal commodities). Zelizer calls this "earmarking": the process by which people allocate different moneys to different uses. In sum, money is qualitatively heterogeneous (Gregory, 1997), and even more so when communities come to create their own alternative currencies.

It follows from this perspective that the "barter fable" (Servet, 1988) or the "myth of barter" (Graeber, 2011: ch.2) told by economists at least since Karl Menger (1892) about the origin of money is inaccurate (see also Hudson, 2004). Money was born before markets and has existed – and continues to exist – outside of markets, which invalidates the commodity theory of money. But this does not make money the creature of the State (Knapp, 1905). Historically, governments and other forms of central authorities have played an important role in monetary innovation, but money cannot be reduced to them for that it has existed and continues to exist beyond their power – so the chartalist theory of money is also insufficient. From an institutional perspective, it is the credit theory of money that best describes its origin: money was born as a unit of account to manage debts that take a variety of forms and meanings.[2]

All money is debt but not all debt is money – while the debt emitted by a government or a commercial bank would circulate as money, a debt I would personally emit would not. Ultimately, the validity of money depends on five criteria: time horizon, spatial limits, diversity of goods and services accounted for, social limits, and legal restrictions (Blanc, 2018b: 5). Money is worthless if it cannot keep its value in time (think of hyperinflation); a euro can only be used within the Eurozone and only for whatever products sellers are willing to exchange euros for; and it depends on the trust of its users as well as the approval and support of public authorities. Money is a general term for whatever people trust to be valuable to redeem a *debt*,

[1] If money was neutral, I would behave the same way towards my *Airbnb* host that I do towards my *Couchsurfing* host. Or perhaps I would have never put my apartment for rent in the first place. In reality, it is not commodities that creates money but the opposite. The expansion of the money economy incentivises people to turn their assets into money (e.g. selling your house) as well as to make any type of objects sell-able (e.g. selling your organs, time, or kids). Through a general reduction of quality to quantity, money objectifies the subjective. What was qualitatively part of a subject (kidney, time) or of social life (honour, friendship) becomes a marketable object that can be separated from it.

[2] *Money* and *debt* are two different things: "money need not to be something owed and due, it is what we use to pay something owed and due […]. We pay our debt *with* money" (Huber, 2018: 94, italics in original).

that is a transfer of wealth that has not yet been brought to completion.[1] Once deemed valid, money becomes "an unspecified, but quantitatively limited, drawing right" (Huber, 2018: 29) on all the goods and services offered for sale – hence the term *purchasing power*.

Money can exist within the four spheres of allocation: *exchange* (on markets), *redistribution* (by a central authority), as well as *reciprocity* and *sharing* (within a community). The Bitcoin is exchange money where the main purpose of using the currency is to facilitate market transactions. The time-backed tax system proposed by Théret (2012) or the *Sol* in Toulouse (France) that distributes a monthly allowance to each unemployed participant (see Fare, 2012) are good examples of a redistributive currency. A Local Exchange Trading Scheme (LETS) or a business-to-business barter schemes like the Swiss WIR is reciprocity money where network participants commit to long-term trade relations.[2] The *Bangla Pesa* in Kenya has a sharing feature because it is associated with a fund that commits to invest in community projects in par with the money supply (see Dissaux, 2018).

Another crucial theoretical choice is to differentiate following Polanyi (1957) between *special-purpose* and *all-purpose* (also *general-purpose*) money.[3] *All-purpose* means that a currency, for example the euro, is fully fungible and so can be used to buy anything from bread and labour to cocaine and dollars.[4] A meal voucher, the Bristol pound, or the Yap islanders' unmovable stones, however, are special-purpose currencies for that they can only be used to purchase a limited range of products in specific places.

With these assumptions in mind, we can now more precisely make a difference between *value* and *valuation* and *price* and *pricing*. *Value* is the broadest appellation of what is considered valuable in the sense of useful and important (synonym with *worthy*); and *valuation* is the process of estimating whether such a thing is useful and important. Whatever is considered valuable is called *wealth*. When I decide whether or not to throw away an old book, I am engaging in a process of *valuation* that can end up declaring the book as either *wealth* or *waste*. If I decide to sell this book at a flea market or on a Local Exchange Trading Scheme (LETS), I will need to estimate a monetary amount (e.g. a *price*) for it.[5] Pricing is therefore a narrower (because quantitative) process of valuation.

The different forms that money takes

Now that we know what money is, we can start to differentiate between the forms it takes. Here, I follow the typology of Blanc (2018b) by identifying three ideal-types of moneys: *public*,

[1] "Even though the audience [of a theatre] knows very well that the events on stage are merely an act, nonetheless they still become emotionally involves in the events as if they were indeed real events. The same applies to the functioning of money. Even though we may know very well that money does not have value in itself, nonetheless we still treat it as if it had value in itself" (Bjerg, 2014: 111).

[2] Often, but not always. It is possible for a LETS to run following the logic of exchange instead, which is actually the case in the Argentinian *Trueque*, the American Ithaca HOUR, or all the LETSystems following Lindon's design (Blanc, 2018a: 67).

[3] "Early money is […] special-purpose money. Different kinds of objects are employed in the different money uses; moreover, the uses are instituted independently of one another" (Polanyi, 1957: 266 cited in Blanc, 2018b: 4). Polanyi assumed that pre-modern or "primitive money" (Einzig, 1949) are *special-purpose* while modern money is *all-purpose*. While it is important to show that even all-purpose currencies have boundaries, it is also crucial to acknowledge that special-purpose currencies are not mere remnants of a pre-modern past but still exist – and sometime thrive – today (e.g. time banks and local currencies).

[4] Of course, *all-purpose* never really encompasses everything (Dodd, 1994: xviii; Blanc, 2018b: 5). Any currency has boundaries, for example cultural (it would be strange to offer euros to my partner for her birthday), territorial (try to use euros in China), or legal (I cannot use euros to buy blood).

[5] I say "monetary amount" because prices are only one type of money-denominated quantification among others such as fines, bonuses, reparation, wage, ransoms, tribute, bribe, dowry and many others.

business, and *associative*. Public money is the one of the State; it relies on authority and is used to seize resources via processes of seigniorage and tax collection. Business money is self-organised by companies and therefore associated with their purpose, often the pursuit of profits but not only. Associative money (often also called *community currencies* or *social currencies*) is run voluntarily by an association of people gathering around a common project. Dividing these ideal-types into sub-types, Blanc (2018b) ends up with seven types of money.

Figure: Different money forms (table is from Blanc, 2018b)

<table>
<tr><th>Ideal types</th><th>Subtypes</th><th colspan="2">Cases</th></tr>
<tr><td rowspan="2">Public money</td><td>Sub-State public money</td><td colspan="2">Argentinian provincial currencies (1984-2003)</td></tr>
<tr><td>State public money</td><td>National currencies</td><td rowspan="2">Contemporary ordinary money</td></tr>
<tr><td rowspan="2">Business money</td><td>Convertible business money</td><td>Bank money</td></tr>
<tr><td>Inconvertible business money</td><td colspan="2">WIR, Sardex; tokens of colonial landowners; purchase points of loyalty schemes</td></tr>
<tr><td rowspan="3">Associative money</td><td>Market-value associative moneys</td><td colspan="2">Bitcoin</td></tr>
<tr><td>Fixed-value associative money</td><td colspan="2">Local currencies (e.g. Chiemgauer), Anglo-Saxon LETS</td></tr>
<tr><td>Non commensurable associative money</td><td colspan="2">Time banks and some LETS-type systems</td></tr>
</table>

The euros in my wallet or bank account are "contemporary ordinary money" – this is what is understood as money in common parlance and what I will keep referring as *ordinary*, *official*, *conventional*, or *national* money/currency.[1] The two main forms it takes is *cash* (bills and coins) and *bankmoney* (i.e. deposits at the bank), the former only accounting for a few percent of the total money supply. In the table above, only "contemporary ordinary money" is general-purpose while all the rest are special-purpose. (To be precise, and because no currency is ever all-purpose, I should rather say that it is that type which has the broadest purchasing power in terms of the diversity of goods and services it can access.)

All the rest are *complementary*, *parallel*, or *alternative* money/currency, that is all currencies that are not ordinary money.[2] It is only the last two types of associative moneys that I will refer to as *complementary local currency* or *community currency* (so excluding business-to-business barter system, e.g. *WIR* in Switzerland or the *sardex* in Sardinia). There are two main families of alternative currencies depending on whether or not they can create money out of nothing. The first type of money only transforms euros into another currency and so are referred to as "convertible local currencies." In contrast, the second type concerns mutual credit schemes like LETS and time banks, which do create additional money each time a transaction occurs within the network and this regardless of any other currency.

The way money is created and destroyed

The last important conceptual node of this section consists in understanding how money is created today. This is a vast question and I will here content myself with a minimal answer. Let

[1] The term "*national* money" is deceptive because, even though it is used by the State for political control, most of its governance is in the hands of commercial banks – so to be precise, one should rather call it privately issued *bank-debt money*.
[2] As Blanc (2017) argues, the term "complementary" is misleading for that these currencies are rather alternative to ordinary money. Indeed, even though Bitcoin or the local currency *La Doume* in Clermont-Ferrand (France) run parallel to the euro, they can both be used instead of it.

me start by saying that I commit to the *endogenous* or *horizontalist* theory of money where monetary creation depends on the demand and supply of credits from private banks. (This stands in contrast to the *exogenous* or *verticalist* assumption whereby it is believed that the central bank controls the monetary supply via regulation.)

As neatly summarised by the Bank of England (2014),[1] money is being created every time a commercial bank grants a credit, either to firms and households or to public authorities. Borrowing €100,000 from the bank *issues* €100,000 additional euros into the economy, then available on your current account at the bank. The only money not created by commercial banks are the 5-10% of the money supply made of bills and coin, which are printed by the central bank and minted by the treasury.[2] But even those are issued in reaction to the total money supply and so could be said to also depend on private bank behaviour (Huber, 2018: 62). Same situation for reserves at the central bank: they are created as to accommodate the settlement of payments between commercial banks and thus depend on the existing volume of bank-money – around 1.5% of the total quantity of bankmoney (Huber, 2018: 9).[3] Variation in the money supply then depends on the individual decisions of commercial banks, which is contingent of the willingness of actors to borrow money from them.

And in reverse, money is deleted each time a loan is repaid and bills and coins are physically destroyed.[4] If €100,000 of bankmoney was created the day it was credited to my bank account, that amount will cease to exist when I will give it back to the bank. In general, every time anyone that is not a bank pays bankmoney to a commercial bank (e.g. customers purchasing services, banks selling assets), money is deleted and the money supply shrinks.

Goal 7: Monetary diversity

Degrowth takes issue with general-purpose money because it allows commensurability between things that should not be otherwise connected – e.g. the "trad[ing of] rainforests for Coca-Cola" (Hornborg, 2013: 13). Concerts and wars, cancer research and tobacco sales are all made in the same currency. This commensurability is a vector of economic rationality (with purchasing power comes the responsibility to makes the best of all possible purchases) and commoditisation (it is because money can buy everything that anything is being put for sale).[5]

But certain currencies are more *economic* (or one could say *economising*) than others. This is because something that is monetised is not necessarily commoditised. Some monies facilitate market exchange (the euro) while others enable reciprocity (a time bank), redistribution (currency with a circulation charge redistributed to poorest members of the

[1] "Commercial banks create money, in the form of bank deposits, by making new loans. When a bank makes a loan, for example to someone taking out a mortgage to buy a house, it does not typically do so by giving them thousands of pounds worth of banknotes. Instead, it credits their bank account with a bank deposit of the size of the mortgage. At that moment, new money is created" (McLeay et al., 2014: 3).

[2] Huber (2018: 64) specifies that even though the ratio of cash to bankmoney might be as high as 20:80, only a small part of that cash is actively used, hence the 5-10%.

[3] The so-called "multiplier model" of banking that understand banks' credit to be limited by the reserve they have at the central bank is also inaccurate (Ryan-Collins et al., 2011: ch.2). It follows that there is little use in increasing reserve requirements because they have no impact on loaning practices (Huber, 2018).

[4] Following Huber (2018: 80-83), I prefer to say it is "deleted" rather than "destroyed" to emphasise it is a mere accounting action, the reverse of the process of issuance.

[5] Pushed to the extreme, this leads to absurd situations, like Wang Shangkun, a Chinese 17-year-old boy who sold his kidney to buy an iPad in April 2011.

network), or even sharing (knowledge-points currency). Even beyond design features, currencies are culturally framed; behind every currency lies a more or less narrow range of possible attitudes and behaviours.

The goal of degrowth is to re-embed an abstract macroeconomy (with homogenous money) to a diversity of local contexts (with heterogeneous monies). Throughout the thesis, I have tried to deconstruct the statistical notion of a single Economy to instead understand it as an assemblage of systems of provision – not one uniform Economy but "diverse economies" (Gibson-Graham, 2008). Now, I am about to argue that special-purpose currencies can separate, or one could say *compartmentalise* these different systems, and this for the sake of resilience and cultural diversity.

So that is my contention: diverse economies need diverse monies. One could, like Brakken et al. (2012), make an analogy with food chains and speak of a "monetary ecosystem" made of different species of money each having a logic of its own. For example, LETS and time banks at the neighbourhood level, convertible local currencies at the city or regional level, and a carbon currency at the national or supranational level (Fare, 2012). And just like in an ecosystem, it is all a matter of diversity. "[A]ny viable […] monetary system should be a field of variation, consisting of a repertoire of different ways of organizing money" (Nigel, 2014: 385). This monetary diversity is not unprecedented. Since the 1990s, a wide diversity of new, parallel currencies has emerged throughout the world, shattering the belief that money was just the creature of either market or State. Since money is a social relation, some communities realise that them too can create money.

Monetary diversity contributes to degrowth in four ways: (1) to regain democratic control over the design of currencies and with it the ability to re-embed economic activities in social and moral values; (2) to earmark income for responsible consumption; (3) to (re)localise activities of provision; and finally (4) to organise forms of reciprocity, redistribution, and sharing that can substitute to market exchange thus participating in a process of gradual de-economisation.

For value sovereignty

Local currencies are opportunities to re-politicise the economy. The objective is for citizens to take back money as a means of political control over economic life (Bosqué, 2014). Unlike national currencies that are managed by commercial and central banks, a local currency can be managed democratically by its users, empowering them to change the rules of the economic game. A currency is not only money but a project to transform the economy, for example to relocalise activities, promote green products, or fight inequality and exclusion.

Talking of "monetary sovereignty" does not only refer to the State but can also apply to the community level. So a city that has created and is running its own local currency has monetary sovereignty over it just like the Swedish government has monetary sovereignty over the krona. One could call a local currency a *monetary commons* because it is the outcome of a conscious, political process of commoning, with the currency itself being the resource used to satisfy a concrete need. Of course, to be democratically controllable, a currency must be accessible in terms of knowledge, adaptable in terms of options, and relatable culturally, or in one word "convivial" (Illich, 1973).

And monetary democracy is good for economic democracy. A local currency can be seen as a popular education initiative where people learn about the economy and its consequences (Fourel et al., 2015: 39). Once a community succeeds in collectively managing its currency, it might be empowered to collectively manage other aspects of economic life (e.g. work via a local employment committee like in the French *Territoires Zéro Chômeur de Longue Durée*, business by establishing SCOPs and SCICs, the production of food via Community Supported Agriculture schemes, or credit via a rotating savings and credit association).

This sovereignty is not only about technical decisions regarding the currency itself but more fundamentally about what should be considered *valuable*. When a local currency association sits down to decide whether a business should be allowed to join the currency network or whether a service should be accepted within the time bank, it self-determines standards regarding the valuation of things. This act is usually performed spontaneously via market interactions; it is depoliticised at the level of an abstract macroeconomy (no community ever sat down to decide that Bitcoin should be considered valuable). This process of valuation (in the economic sense) is informed by a set of values (in the philosophical sense) often written down in the charter of the currency association in French local money initiatives. The currency is designed by its users for its users, both reflecting how they are and how they want to be. This I would like to call *monetary existentialism*.

For example, certain convertible local currencies in France bear a negative interest rates, also called *demurrage* (e.g. the *sol-violette* in Toulouse melts at a rate of 2% per trimester).[1] The feature is intentionally designed into the currency by its users to discourage hoarding and to facilitate positive discounting in order to favour long-term investments. What could be seen as a technical aspect is in fact something inherently political.

If value is a social relation, and social relations are constructed and therefore malleable, I wonder what value-narrative is most incline to ensure autonomy, sufficiency, and care. Here is one story of value: is valuable what begets money and so it is the contribution of those who are highly remunerated that is the most worthwhile. Plain to see that this story of individual wealth creation polarises society between those who create wealth and the other who free ride it, basically a re-telling of La Fontaine's "*The Grasshopper and the Ant*" fable. Such belief – and it matters that it is only a belief – is bound to create social tensions.

An alternative story would be to believe that wealth can take various forms and so that contribution is rather to be measured in time and effort rather than in outcome. This is the logic of time banking where all hours are valued the same, regardless of who is working and what service is provided. It is my conviction that a community would be better off believing in the second story if that means it preserves social harmony.

Behind the idea of monetary *diversity* is the fact that there should not be a universal story of value but that value, like any social construct, depends on context and changes in time. The goal is for different forms of values to co-habit and to never let one story of value becomes

[1] It is German anarchist Silvio Gesell (1862-1930) who is remembered for first propounding negative interest rates. Money, he argues, should not have an undue advantage compared to other goods. "Money which goes out of date like a newspaper, rot like potatoes, rusts like iron, evaporates like ether, is alone capable of standing the test as an instrument for the exchange of potatoes, newspapers, iron and ether. For such money is not preferred to goods either by the purchaser or the seller. You then part with goods for money only because you need the money as a means of exchange, not because you expect an advantage out of the possession of money" (Gesell cited in Seccareccia, 1997: 132-3 cited in Dittmer, 2014: 20). Gesell envisioned negative interest to be applied on all money at the global level. In practice, he suggested to apply stamps on bills; costing 0.5% of the bill, a new stamp would need to be added every month, representing a loss of value of 6% per year (Gesell, 1916).

a heteronomous force imposed upon a community. We are back to the analogy with nature: an ecosystem of monies for an ecosystem of values.

For responsible consumption

In the introduction of the monograph, I invited you into a thought experiment: "*Imagine that you have 24 hours to deteriorate ecosystems as much as you can, except that you cannot use anything that has previously been purchased, nor can you purchase anything. What could you do?*" After giving a few silly examples, I concluded that the answer was "*not much*." Now comes the time to understand the role that money plays in this.

Let us start here: it is via money that we gain the ability to do ecologically-destructive actions. But one can only do so in an economy where it is possible, both technically and socially, to purchase such means of destruction (e.g. a plane ticket, a SUV, electronic gadgets). Purchasing power is currently an open-ended power: any euro can jump from one activity to another. This is the recurrent problem of indirect rebound effects that has haunted most of the policies of Part III. How to give a universal allowance, redistribute wealth, or increase wages without risking that this additional income be spent on socially problematic, environmentally disruptive goods and services?

In an economy with wide commoditisation, global markets, and for-profit firms, all-purpose money ends up, sooner or later, to be used in nature-intensive activities. The euro you give to the farmer for fruits is given to one of her suppliers who uses to pay the wage of an employee who spends it in petrol to run his car or save it at the bank which invests it in shale gas extraction. This is because the most exploitative activities are often the ones that promise the highest return on investment; these activities act as a sort of giant magnet that attracts liquidity. Just like the *six degree of separation* hypothesis (the fact that all people are six or fewer social connections away from each other), any euro has a given number of transactions before it gets to be spent on an activity that degrowth considers undesirable. "[T]he 'system' is perpetuated every time we buy our groceries, regardless of whether we are radical activists or climate change deniers" (Hornborg, 2019).

There are two solutions to this monetary predicament. The first is to limit the range of products that can be purchased by a given currency, that is reduce the fungibility of money. This design feature is present in all existing complementary local currencies (either it is the range of products that is limited or the geographical radius within which they can be purchased). If an association abides to the value of ecological sustainability in its constitutive charter, it may decide that only organic or labelled products can be purchased with the currency; if it is proximity, only local shops, and so on.[1] Said differently, local currencies are always socially earmarked by their users. As such, a green special-purpose currency provides a "sustainable" purchasing power, the same logic being applicable to any other values (local purchasing power, fair purchasing power, etc.). In terms of environmental pressures, this earmarking of the currency towards low-footprint products would remove the risk of indirect rebound effects – purchasing power would be a power with limits.

[1] Libertarians will be quick in pointing to the paternalism of such strategy. But again, I see nothing wrong for a community to democratically decide the do's and don'ts of production, keeping within themselves the ability to exclude businesses from the scheme should they not respect certain social-ecological standards. This the first rule of a successful commons for Ostrom (1990), the ability to set boundaries.

An extra step would be to issue the currency only when desirable products are purchased. This is the case for the *e-Portemonnee* in 44 cities in the Limbourg province of Belgium. The 10,000 members of the scheme (in 2018) receive points for environmental-friendly actions (e.g. transition to renewable energy providers, bringing clothes to a second-hand shop, putting a no-junk mail sign on the mail box) that can be used to access rewards such as an entrance to swimming pools, public transport, or energy-saving light bulbs.[1] Same logic for the *Torekes* in the Belgian city of Gent since 2010. Participants receive tokens when they complete certain tasks such as participating in clean-up days, volunteering during community events, or switching to renewable electricity, which they can spend in bike shops, cinema, public transportation, or use them to rent plots in community gardens.[2] If green tokens cannot be converted back into official money, there is no problem of rebound. Not only is the currency issued through a reduction of environmental pressures, but it can only be used on low-footprint goods and services. This is the opposite of rebound, it is a *green multiplier effect*.

Let us pause for a moment to consider a potential variant of this scheme. Cauvet and Perrissin Fabert (2018: 74-77) give the example of a hypothetical carbon currency. Public authorities set a social value for one unit of CO_2 and give one unit of the local currency to whoever manages to prevent the emission of one unit of CO_2. (The same logic could be applied to any quantifiable environmental pressures, e.g. in Payment for Ecosystem Services, Karsenty, 2010; or on the production of solar energy like SolarCoin.[3])

This system has at least two advantages. First, the government can lower the cost of mitigating climate change. Indeed, official money from the State budget does not have to be used upfront to finance emission-reducing projects (because they are paid in carbon currency). If all carbon tokens are immediately redeemed for euros, this effect is cancelled; but as long as the tokens circulate within the economy, it remains cost-neutral for the State. The second benefit is that it stimulates activities that would otherwise struggle to attract funding. The fact that conversion back into official currency is guaranteed can stimulate investment in all the activities that may not profitable in euros, but nonetheless reap a social and ecological surplus (then denominated in alternative currency).

This is literally *green money* because the value of such carbon currency originates in a reduction of environmental pressures. The value of each unit is backed, not by euros saved at the bank (as for a convertible currency) or trust within a network (as for a time bank), but by the certification of certain services whose value estimation (in official money) is determined in advance (often by the State, but not necessarily). This would be a way of valuing something that has no market value without turning it into a commodity.[4] It also constitutes an in-built limit ensuring that the economy remains in harmony with its biophysical environment.

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[1] In both the Belgium *e-Portemonnee* and the Dutch *NU Spaarpas*, the rate of use of these green tokens was very low – only 22.2% of the *e-Portemonnee* were used between 2005 and 2013; and only 8.9% of all the *NU Spaarpas* in the short period it existed between 2002 and 2003 (Blanc, 2018: 93).

[2] For an additional example, see also Holdsworth and Boyle's (2004) proposal for a "sustainability reward card" in the UK.

[3] Created in 2014, *SolarCoin* is a blockchain-based, digital currency that aims to promote the transition towards renewable energies. Its value is backed by solar energy. Once registered on the SolarCoin network, anybody producing solar energy receives 1 SolarCoin per 1 MWh of solar energy produced. The currency is then free to circulate amongst anybody that would accept it, or traded back into official currency on an online currency exchange platform.

[4] Another example is the *Renewable Energy Dollar* proposal (Turnbull cited in Ryan-Collins et al., 2013: ch.4). Energy producers would issue certificates in relation to how much energy they produce, which would allow to issue a proportional amount of *renewable energy dollars* that could be used as money.

For (re)localisation

For economic practices to be embedded in the social and ecological, they must be grounded in a specific territory. This is the principle of *proximity* from Chapter 6. The objective is to promote what the French statistical agency INSEE refers to as "presential activities," namely local production of goods and services for the satisfaction of local needs. As for the definition of "local," both geographical and cultural proximity matter (Rallet, 2002); a territory should not only be a bioregion but also have a shared identity.[1]

Local currencies can contribute to the relocalisation of economic activities.[2] Official money, which is all-purpose within a given nation or region, can flow in and out of a community without any constraints. This makes relocalisation difficult because producers cannot settle into a new, relatively quiet area with the risk of seeing all liquidity flee to another location. A local currency, on the other hand, is geographically bound. You cannot spend a Bristol pound in Manchester; it circulates in a smaller, local circuit parallel to the official currency.

A currency acts as an economic frontier and some currencies are more restrictive than others. A local currency association can decide to only include products from the region (then adding a double proximity: *local* exchange of *local* products). The purpose is to shorten the distance between producer and consumer, to create a "short circuit" (Douthwaite, 1996). For example, Hornborg (2016) proposes a complementary currency that can only be used to buy goods and services that were made within a given radius from the point of purchase (as to reduce long-distance transport). What the author proposes is not a local currency as in a currency ran locally, but a nation-wide complementary currency that can only be used for local consumption.[3] Each resident is being given a plastic card electronically charged each month with an amount of complementary currency "sufficient to enable basic existence," so as a sort of universal basic income (Hornborg, 2016: 5). Such a currency would be a tool to promote local consumption, for example the idea of the "100-mile diet" defended by Smith and MacKinnon (2007).

A local currency has two desirable effects when it comes to relocalisation: *retention* and *protection*. First, it provides the local economy with a steady flow of liquidity by avoiding monetary leakages outside of the territory – this is the *retention effect*.[4] Local spending becomes local revenues and local savings can be used to invest in local activities – this is a closed monetary circuit. This is especially the case for non-convertible currencies that cannot be converted back into euros and are therefore 'stuck' in the circuit where they were created (and to a lesser extent with the ones that impose an out-conversion fee or limit).

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[1] Of course, not all forms of localisation are desirable (remember the sectarians from Chapter 7). The whites-only town of Orania in South Africa is a good example of how a local currency (the *e-Ora*) can be used to further protect a community from outsiders, here defined based on race (Akwei, 2019).

[2] Not all *alternative* currencies are *local* currencies. Certain monies like the Bitcoin can further disembed the economy from society by providing an a-cultural, a-contextual, faceless currency. Same case for the global time bank *Timerepublic*, which connects people all over the globe, or *SolarCoin*, a "borderless incentive program for solar energy, independent of any national or local incentives" (SolarCoin, 2014: 4).

[3] "This proposal should not be confused with the notion of local currencies, as it does not imply different currencies in different locales but *one* national complementary currency for local use. Nor is it locally initiated and promoted in opposition to the regular currency" (Hornborg, 2016: 6-7, italics in original).

[4] Certain advocates of local monies see them as a means to "boost local GDP," that is maximise the number of commercial exchanges within the territory. From a degrowth perspective, this local growthism is problematic. What should be clear in the charter of a degrowth local currency is that its purpose should be social (e.g. fighting exclusion) and ecological (e.g. reducing emissions), but not economic (e.g. accelerate monetary circulation), or even worse economistic (e.g. boost local GDP).

Second, it insulates a locality against economic shocks coming from the outside (the *protection effect*). A currency delimits a "circuit of commerce" (Zelizer, 2004). If following a national financial crisis, a factory closes and a whole city finds itself unemployed, there will be a shortage of national money even though there might not be a shortage of other factors of production such as the time of workers, the factory building, and the machines. After all, the fact that the main local employer closed down does not change the fact that some people need to pay others for food, haircuts, and firewood, among a variety of other everyday transactions. The only missing element in the picture is the currency that would allow people to exchange these goods and services. If official money disappears from the community, why not using alternative money? In fact, it is often how local currencies emerged in history, in situations of economic turmoil. What a local currency does is improve the resilience of a territory, that is its capacity to adapt to unforeseeable changes in its environment.

The question remains as to what should be the optimal scale for a local currency. The word "optimal" should not be understood in the economistic sense as the *most efficient* scale. Instead, it means the scale best fitting for the currency to fulfil its political purpose (as set in its charter) while remaining democratically manageable by its users. This means there is no universal answer. The optimal geographical span of an alternative currency depends on the nature and organisation of productive activities in a territory. As Blanc (2018: 88) argues, the outer boundaries can hardly be fixed beforehand. So perhaps, the only way to figure out is to let territories create their own currencies and let them find their optimal scale, which would be a bottom-up manner to re-draw a nation-state into biosocial regions (Cato and Suarez, 2012).

For Latouche (2016c: 18), the optimal scale of a regional monetary system is between 10,000 and 1 million people, a loose estimation that the author leaves unjustified. As hinted by Douthwaite (2012: 192), a starting point could be to consider the European Union NUTS (Nomenclature of territorial units for statistics) that divides the EU into either 104, 281, or 1348 regions depending on the scale. In France, this takes the form of 27 regions or 101 departments. Alternatively, Lietaer and Tréhet (2015: 153) identify 60 "employment regions" (*bassins d'emplois*) in France that could be used for mapping local currencies. It is unclear to me which one of these options should be preferred and I am not aware that anyone has actually tried to answer this question with degrowth in mind.

For demonetisation

This seems contradictory: creating currencies to demonetise. And yet, a local currency can indeed be a first step towards the establishment of a demonetised commons. This is because the running of a successful local currency requires the same social attributes that are necessary to run a commons, namely trust, community-based knowledge, and democratic know-how (Seyfang, 2002, 2004). If the longer horizon of degrowth is indeed the abolition of money (or what could be called *postmoney*, in the same sense as *postwork*, so less importance given to the monetary aspect of life), certain alternative currencies can be a stepping stone towards that objective. This one takes a little bit of explanation.

Degrowth is about bringing down the economy to a scale that is proportionate to its social and ecological environment. When it comes to allocation, this means rebalancing the sphere of exchange with three alternative modes of allocation (redistribution, reciprocity, and

sharing). What is crucial to realise is that these four ways of transferring wealth can substitute each other.[1] Hosting a friend for a night is sharing; hosting a *Couch Surfing* member is reciprocity; hosting a State-assigned family of refugee is redistribution; and hosting an *Airbnb* customer is exchange. In essence, economic expansion is the turning of redistributive, reciprocal, and sharing relations into ones of market exchange. The objective here would be to revert that process (as well as protect remaining non-economic relations from the threat of commoditisation).

An alternative currency can protect the logic of a specific mode of allocation by keeping it separate from market exchange. For example, you cannot buy hours in a time bank with euros, nor can you sell them for euros; a time bank is based on reciprocity and allowing someone to buy in would be a breach of that mode of interaction. Likewise, it would be inappropriate to offer money to a friend sharing a meal with you – the logic of exchange would then conflict with the one of sharing. As for redistribution, you cannot buy your way out of jury duty, nor could you buy your way out of taxation if you can only pay your taxes with time-based tokens.

These different systems are inhabited by ideas and practices that do not exist within market exchange. For example, the LETS of Nancy in France operates a form of jubilee at the beginning of each year, rebalancing all accounts in the mutual credit network (Blanc, 2018, 95). This is line with the objective of LETS, which is to create social relations, exchange then only being a means to that end (Fourel et al., 2015: 54). Some convertible currencies like the *sol-violette* in Toulouse (France) are designed to "melt" (because of a negative interest rate) to discourage people from hoarding them. Each of these specific features designed into the currency is an example of how an economic instrument can become the vehicle of cultural values, thus effectively re-embedding the economic in the social.

The strength of local currencies is that they still look like money and as such fit the habits people developed in market societies. Local currencies are to national currency what electric cars are to petroleum cars; people still play the money game but with slightly different rules and consequences. And after a while, once one knows and trust each other, one may decide to switch to non-monetary forms of allocation. This is what McGuirk (2017) observes in her study of time banks in New Zealand: the people who meet through a time bank become friends and so what used to be reciprocity (teaching them violin for time credits) turns into sharing (just teaching them violin). One could even say that a local currency is a pedagogical tool for a community to learn how to trust itself. It starts with the safety of "objective" exchange to turn, as collective self-confidence builds up, into more subjective forms of reciprocity and sharing.

This is why the disappearance of a local currency is not always a bad thing. One should always remember that money is an instrument, a means to an end. Today, alternative currencies can play their role to democratise economic governance, educate citizens about the economy, and foster more responsible production and consumption. Once these objective are achieved, there will be lesser of a need for them. Coming back to McGuirk's (2017: 606) study of timebanking in New Zealand, she describes a time bank that evolved into a community garden. This is not collapse or disappearance but transformation. One could say that over the long term,

[1] Even if it feels unnatural to rent your home to strangers on week-ends, you may need to do it because you are yourself renting out a place, and so to afford it, you must obtain money. But the precise same result could have been achieved via sharing (borrowing a friend's house), barter (swapping houses for the holidays), indirect reciprocity (a type of platform like *Couch Surfing* that provide the services of a vacant home), or even redistribution (short-term social housing partly financed via taxation).

a successful local currency is one that has managed to make money feel less important compared to relationships.[1]

Alternative currencies can be a stepping stone towards postmoney but they can also achieve the opposite, namely "hypermonetisation" (Blanc, 2018: 112). Pushed to its extreme, such scenario would lead to a society where all values are embedded in moneys and where currency competition becomes a substitute for political deliberation. Multinationals would each creates their own currency as to retain customers and incite more consumption (e.g. Air Miles); every ecological project would be linked to a currency (carbon coin, shark coin, mangrove coin, etc.); and every neighbourhood would have their own tokens. These currencies would become new financial products and enable a further financialisation of society and nature. In the end, choosing one payment method would become as complicated as selecting a film to watch on Netflix, and money would again re-become a de-politicised, technical tool detached from specific social-ecological contexts. Besides, it could also depoliticise consumption in the same way that labels do – I buy with green money so I do not have to reflect over what I buy.

Another risk is that this monetarisation leads to further commodification of amenities that until now remained outside of the market. While I have argued that a service, for example within a time bank, can be monetised without being commodified, it remains that a monetised good or service is easier to commoditise than one that is not. Maybe a specific service gets popular within a time bank, which attracts the attention of a for-profit business who decides to provide that service for a price. Any currency, even though based on strong ethical principles, is still a quantitative denomination and, as such, is closer from the logic of commodities than something that has not yet been quantified.

Policy instruments for monetary diversity: Alternative currencies

The challenge for this policy bundle is to generalise the use of alternative currencies. In order to do that, I will discuss both (1) which types of currencies are most desirable from the perspective of degrowth, and (2) what can be done to support their emergence and development.

(1) What kinds of alternative currencies?

By definition, the goal of monetary diversity requires not one but several alternative currencies. From the perspective of degrowth, I can think of three systems that are particularly fitted to the task: *local exchange trading schemes*, *time banks*, and *convertible local currencies*.

Local Exchange Trading Scheme (LETS)

The first Local Exchange Trading Scheme (LETS) scheme was created by Michael Linton in 1982 to face rising unemployment in a Canadian province. A LETS is a network where participants trade goods and services using a currency taking the form of credits earned within the network – hence the appellation *mutual credit system*. The currency is being issued every time a transaction takes place, which symmetrically grants a debt to the buyer and a credit to the seller, a centralised clearing house keeping track of all participants' accounts. So for

[1] "The ultimate success for an associative currency is its own dissolution: the currency becomes useless when trust is so prevalent in the community than it ceases to be necessary to keep track of transactions because it has become obvious that one transaction one way will soon happen the other way around" (Blanc, 2018a: 69, mt).

example, I sell home-made jam to someone in the network and receive credits that I can use to pay someone to help me out filling administrative forms; that person can then use the tokens to remunerate hours of babysitting performed by the person who bought the jam in the first place.

LETS arrived in France in 1994 under the name of *systèmes d'échange local* or SEL (local exchange system). In 2014, Marguerit and Privat counted 472 SEL in France with a total of 30,000-35,000 adherents – that number was up to 676 in October 2019 according to the online *annuaire des SEL*. Even though a few LETS systems counted several thousand members, the average size of a scheme is around 70 people (Blanc, 2018a: 57). In the second half of the 1990s in France, the annual average volume of transaction per member of a SEL was around 300€ in the countryside and 80€ in cities (Servet, 1999 cited in Blanc, 2018a: 72). LETS run cheap with an annual median budget of €350 (Fourel et al., 2015: 54).

Degrowth should value LETS because they render monetary accumulation impossible. A LETS is always symmetrical with overall debts being equal to overall credits; it is a zero-sum system of reciprocity without any growth imperative. The quantity of money always mirrors the real transactions it enables, with no risks of inflation/deflation.[1] A LETS is a way of organising multilateral reciprocity, with the precise same logic than a time bank, a business-to-business barter system, or than Keynes' proposed Bancor system (a supranational currency meant to keep international trade balanced between countries).

Time banks

One of the first time-denominated currency, the *Time Dollars*, was created in the 1980s by American civil rights lawyer Edgar Cahn to contribute to "the fight over being declared useless" (Cahn, 2000: 5 cited in Dittmer, 2014: 46).[2] In the same logic than a LETS, a time bank is a network of actors who decide to trade services using tokens denominated in one hour of service with everyone's time being valued the same regardless of skills and activities. The Ithaca hours created by Paul Glover in 1991 in the American town of Ithaca in upstate New York is another famous example (for more see Jacob et al., 2004). The difference with the *Time Dollars* is that it introduced bills instead of a centralised clearing house keeping track of credits and debits. In 2015, there were around 1,700 time banks in the world (Blanc and Fare, 2015: 145).

A time bank can run either person-to-person (its traditional form), person-to-agency as in the case of an outside organisation rewarding certain gestures, or agency-to-agency where it is organisations that exchange services with each other (Dittmer, 2013: 6). For example, *Timerepublic* is a global online person-to-person time bank. Another initiative is the *Time Credit Scheme* in London since 2012 which delivers public services via a time bank – people earn time credits when they contribute to certain community activities, which can be spent on public services or gifted to others.

[1] One important decision to be made within a mutual credit system is whether one prefers to decentralise accounting by emitting bills or keeping it centralised by manually keeping track of people's credits and debts – the latter is the prevailing practice in most French SELs (Blanc, 2018a: 64). The advantage of a centralised system is that there is no risk of inflation, money being emitted only during transactions; the downside is that it requires more effort to manage. Bills removed this administrative burden but creates the problem of deciding how much money to emit and how to eliminate it from the system.

[2] An ancestor of time banks was Robert Owen's "equitable labour exchanges" (1882-1884) in London and Birmingham where artisans could sell their production in exchange of "labour notes" denominated in hours which they could then use to buy products from other members of the network.

In France, one finds a specific type of time bank that is called *accorderies* (from the French verb "accorder" in the sense of *to be well-matched* or *in harmony*), inspired by initiatives that have been existing in Québec since 2002. The first French *accorderie* opened in 2009. Just like the original time banks, their focus is on fighting poverty and social exclusion. In 2016, there were 29 *accorderies* for a total of 8,000 participants (Cauvet and Perrissin Fabert, 2018: 54); the website *accorderie.fr* lists 38 active ones in 2019 with 16,000 participants and more than 340,000 hours exchanged. The average size of a time bank in UK, USA, and France is between 170 and 330 members (Blanc, 2018a: 58).

The time bank model is appealing for degrowth because it acknowledges a fundamental equality between people (one hour for Nina has the same value than one hour for Gaston). It also promotes labour-intensive activities, whose ecological footprint is most often lower than capital-intensive production. Time tokens are fundamentally bounded by the number of hours one finds in a day, thus preventing endless accumulation. Users are more likely to use them to satisfy concrete needs instead of hoarding them for their own sake.

Convertible local currency

A currency is convertible when it can be bought and sold with the national currency. In France, the law requires that all emissions of convertible local currency be matched with euros saved on a bank account. If the complementary currency comes to fail, all participants should be given the possibility to redeem their tokens for euros at the price they initially purchased them.

The first convertible local currencies in France appeared in 2010: the *abeille* in Villeneuve-sur-Lot and the *Occitan* in Pézenas. In their last yearly report, the *sol movement* listed 24 convertible local currencies active on the French territory for a total of 54,000 users, 4,000 partner businesses and 800 partner associations, and 8 million equivalent-euros of transactions (Sol, 2017). The great majority (94%) of the complementary currencies in circulation in France are organised as *association* (Fourel et al., 2015: 55).

The most dynamic convertible local currency is the paper-based *eusko* in Northern Basque Country. It was created in 2013 by the local association *Euskal Moneta*. In 2015, it counted 3,000 adherents and 602 business partners (453 private firms and 149 associations) for a total of 410,000 *euskos* in 1:1 par with the euro (Cauvet and Perrissin Fabert, 2018: 42). In 2018, the volume of *euskos* in circulation climbed up to a million (Barthet, 2018). An original feature of this currency is its investment fund. In a partnership with the community fund *Herrikoa*, part of the money that backs up the *euskos* is invested in low-risks, local projects.

A convertible currency brings with it the question of *bonification* (in-conversion rebate) and *rédimage* (out-conversion fee). The buy-in bonus aims at attracting users and must be financed by additional funds if all complementary units are to remain backed by saved euros (e.g. the rebate is often around 10%). (One could imagine advantageous buy-in exchange rate for disadvantaged populations.) The buy-out fee is meant to prevent reconversion into euros – in average, it reaches 4% in the twenty local currencies circulating in France in 2014, with two third of all currencies only allowing out-conversion for businesses (Fourel et al., 2015: 62). This out conversion fee can be seen as a tax on "unauthorised" forms of consumption, meaning goods and services not available for purchase with the local currency. It is also a way of keeping money within one single circuit (this is what I described earlier as the *retention effect*).

These convertible local currencies are perhaps the most important form of alternative currencies for degrowth. While the logic of LETS and time banks is radically different from usual monetary transactions, a convertible currency is more familiar in use. It takes the form of bills or stays on a digital wallet, it is often denominated in par with the euro, and it is used in the same shops where one would spend euros. As such, it constitutes a powerful Trojan horse to change behaviours. It looks like money, it is used like money, but it is slightly different from official money. This "slightly" is more revolutionary than it seems, however, because it can lead to the four revolutionary changes I have described earlier (value sovereignty, responsible consumption, (re)localisation, and demonetisation). Perhaps one could imagine an articulation in time with a gradual transition from official money to convertible local currencies, and then to LETS and time banks, and perhaps finally to demonetised systems of allocation.

(2) How to support them?

As of today, there are between 40 and 60 convertible local currencies in France; to compare, there were 243 of them in the world in 2013, out of a total 3,418 of local money projects (Seyfang and Longhurst, 2013). While that number has rapidly increased, it remains a drop in the sea. In 2017, the 24 convertible currencies of the *sol* movement involved 54,000 users (0.08% of the French population) and 4,000 participating businesses (0.1% of all businesses).[1] The largest currency (the *eusko*) totals 410,000 equivalent euros, which corresponds to 0.00003% of all the euros measured as M1 in France.

This is a slow process that could be fastened. In France, there are 21 regions, 101 departments, and around 1,000 cities with more than 10,000 inhabitants. Looking at the yearly reports of the *sol* movement, 9 new convertible currencies were created between 2016 and 2017. Starting from the 50 existing today, and assuming the continuation of this "natural" pace of development (+9 per year), it would take a bit more than a century for France to reach 1,000 alternative currencies (one per large city) and 5 years to have at least one per department. This is slow but there exist a number of ways to accelerate the spread of local currencies, both supporting existing one as to avoid collapse and fostering the creation of new ones.

Funding

One key intervention is to involve local public authorities in the currency system. The minimal level of support is for local authorities to materially support associations. To run a local currency, one needs basic things such as a room to meet, communication channels to advertise the scheme, computer equipment, and administrative support. Blanc and Fare (2014 cited in Fourel et al., 2015: 58) estimate the cost of creating of convertible local currency to be between €3,000 and €5,000, most of these costs being currently supported by subscription fees from participants.[2] The cost is low only because the administrative staff are most often volunteers; in a study looking how complementary currency are financed, Schroeder (2015) finds that administrative expenditures is the largest operational cost.

[1] 1,105 billion euros in August 2019 (Banque de France, 2019); 67 million inhabitants; and 4 million companies (Insee, 2018d)
[2] More sophisticated currencies are costlier. For example, the overall cost of the Rotterdam green card (*NU Spaarpas*) experiment was 3.6 million euros (Fare, 2012).

Local taxes and expenses

The second step is to accept the local currency for payment. For example, in the British *Bristol Pound*[1] system, local taxes, energy bills, and public transport can be paid in the local currency (I have been told that certain public servants even receive part of their wage in Bristol Pound). In France, this is legally possible since the Article 16 of the *law on social and solidary economy* of 2014 acknowledging the "bonds for complementary local currencies" as means of payment for local taxes and means of expense. If local currencies are accepted for the payment of local services (e.g. public transports, water and electricity services, theatres, cinemas, and museums, sports facilities like swimming pools and climbing centres), and most importantly taxes (e.g. inhabitation tax, estate property tax, professional tax, utilities tax),[2] it means that both individuals and businesses avoid the risk of ending up with tokens of the currency they would not know how to use.

The final step would be to enable local authorities to use local currencies for a portion of their expenses (e.g. public procurement, wages of civil servants, institutional catering, and welfare transfers). Instead of being converted back into euros soon after being received in payment of taxes or local services (the current situation for the few French cities who accept local currencies as payment for public services), the currency could be injected back into the community, for example as a portion of the autonomy allowance described in Goal n°1.

Business participation

Firms can also support local currencies by joining the network and so accepting payment in alternative currency, and also by paying part of their employee's wages in the local currency. This is common practice in the *sardex*[3] business-to-business barter system in the Italian island of Sardinia. In 2016, 1,600 employees (among 3,000 participating businesses) received around 20% of their wage (250€) in *sardex*, usually as an advance on salary (Cauvet and Perrissin Fabert, 2018: 48). One could imagine that the for-employment firms I have described in the community job guarantee of Goal n°6 or the SCICs of Goal n°2 could pay part of their wages in the local currency (I will have more to say about interactions between the different goals in the final chapter of the dissertation).

National legislation

Legislation must not be an obstacle. In France, the first legal framework for local currencies was created in 2014 with the *law on social and solidary economy* (n°2014-856) that included an article introducing the new category of "*titre de monnaie local complémentaire*" (bond for complementary local currency, mt) that could be emitted by organisations within the Social and Solidary Economy (ESS). In 2016, the *law for a digital Republic* (n°2016-1321) allowed these

[1] The *Bristol pound* was created in 2012 in the British city of Bristol (460,000 inhabitants) in partnership with a local bank (Bristol Credit Union). It is the largest local currency in the country with a total of 516,000 Bristol pounds circulating in 2015 (75% of transactions are electronic) among 1,453 users and more than 750 businesses (Cauvet and Perrissin Fabert, 2018: 41).
[2] In French: *taxe d'habitation, taxe foncière sur les propriétés bâties et non bâties, taxe professionnelle (cotisation foncière des entreprises* and *cotisation sur la valeur ajoutée des entreprises*) among other local taxes.
[3] The *sardex* is a business-to-business barter scheme created in 2010 in the Italian island of Sardinia (1.6 million inhabitants). It grew from a few companies to more than 3,000 in 2018, with an average yearly rate of growth of the money supply of around 300% between 2010 and 2016 (Cauvet and Perrissin Fabert, 2018: 48). In 2015, the total value of transaction in *sardex* went over 100 million euro-equivalent, representing 0.3% of Sardinia's GDP (ibid.).

local currencies to take a digital form, under the condition that their yearly volume of transaction remained under a million euros.

The next step would be to modify the *Code Monétaire et Financier* (Monetary and Financial Code) so that alternative currencies no longer require full backing in euros (remember that, at the moment, every unit of local currency must have its euro equivalent sitting idle on a bank account). "Article n°442-2 of the French *Code pénal* (the codification of French criminal law): "Putting into circulation any unauthorised money designed to *replace* coins or banknotes that are legal tender in France is punished by five years' imprisonment and a fine of €75,000" (italics added). If the goal is to decentralise monetary policy at the local level following an ideal of economic democracy, alternative currencies should aspire to *replace* general-purpose currencies like the euro and not only run in parallel to them.

Another push could take the form of advantageous tax regimes. Time banks and LETS are exempted from Value Added Taxes and income tax but only at the condition that they remain occasional and spontaneous transactions, which excludes professionals from the scheme (a serious limitation if alternative currencies are to replace official money). This rule should be relaxed as to allow time bank to include professional services. (It is not an all or nothing choice and it is possible to only allow certain businesses into the scheme, for example the for-employment companies described in Goal n°6 and the SCICs described in Goal n°2.)

As for convertible currencies, they are not exempted from such taxes, which must be paid in official currency – another heavy limitation. Considering the current volume of transactions and the selective nature of goods and services exchanged (often going in the direction of social inclusion and ecological sustainability), one could envision either a total exemption from VAT or alternatively a default placement in the lower 5.5% bracket. In the long term, it is determinant for the survival of these systems that taxes can be paid in alternative currency.

From a degrowth perspective, alternative currencies should achieve **4 objectives**:

- value sovereignty;
- responsible consumption;
- (re)localisation; and
- demonetisation.

A strategy of monetary diversity for degrowth should:

- generalise the use of LETS, time banks, and convertible local currencies;
- be supported by local public authorities (tax acceptance and public payment);
- be supported by businesses accepting the currency and paying wages in it; and
- be supported nationally by legislation and fiscal advantages.

Goal 8: Sovereign banking

"There is not enough money available for it." Here is the kryptonite of any ambitious eco-social policy, from work time reduction and job guarantee to universal basic services and the funding of social cooperatives. Most of the policies I have discussed in previous chapters require funding and are unlikely to happen without it. Even at the grassroots level, behind most initiatives stands a bank willing to finance them.[1] What this shows is that even though the third sector does not care about money, it does need money in order to function, at least in the beginning. This makes the securing of investment crucial for a degrowth transition; hence this second goal being about how money and should be rendered available in society.

By sovereign banking, I mean nothing less than the decommodification of money itself. One can call "commodified," money that is being created by private commercial banks. This money is a commodity because commercial banks create it to supply a demand on a money market (with interest rates representing the price of money) and following a profit motive. This ceases to be so in a local currency where money is created by an association with a mission of social benefit. Same case for sovereign money: it is a central bank-like institution that decides politically of the quantity of money to be issued, in complete disconnection with monetary profit, and it is the government, either directly or via community banks, that spends it into existence. In sum, sovereign banking implies that money becomes a public good opened to democratic deliberation, just like roads, schools, and labour laws.

From a degrowth perspective, sovereign banking is desirable for 3 reasons: (1) to tame the monetary growth imperative that comes with current bankmoney; (2) to ensure an equal access to money; and (3) to use the injection of liquidity into the economy as a way to select which investments contribute to the common good.

To tame the monetary growth imperative

Is the current monetary system driving economic growth? To this question, a number of heterodox economists[2] have answered yes, assuming that positive interest rates on all created money are impossible to sustain in a non-growing economy. The argument is the following: if the bulk of the money supply is being created when commercial banks give loans and if these loans are granted with a positive interest rate, then the repayment of all debts throughout the economy would require more money than was created in the first place. Because each borrower has to repay, not only the principal but also interest, the money supply must necessarily grow for all to be able to repay their debt.

(It is worth dividing the question of interest into two distinct problems. First, the interest rate applied on money at the point of emission, which has to do with whom is allowed to create money (currently for-profit private banks). Second, interest setting practices on already created money, for example within a collective saving scheme or by a pawnbroker.)

[1] The *Caja Laboral* to finance the Mondragon co-operative (1956); the *Catalan Integral Cooperatives* have the Social Auto-financing Cooperative Network; Italian solidarity economy initiatives have the *Banca Popolare Etica* since 1999; the Crédit Coopératif and the nef (*Nouvelle Économie Fraternelle* – new solidary economy) stand behind most convertible local currencies in France.

[2] For example, Rowbotham (1998), Douthwaite (1999, 2012), Hutchinson et al. (2002), Greco (2001, 2009), Lietaer (2001), Mellor (2010, 2015), Eisenstein (2011), Loehr (2012), Lietaer et al. (2012), Kennedy (2012), or Robertson (2012).

In response, several authors have demonstrated that the current monetary system is, in fact, compatible with zero growth (Richters and Simoneit, 2017; Jackson and Victor, 2015; Berg et al., 2015; Wenzlaff et al., 2014; Cahen-Fourot and Lavoie, 2013). This, however, is true only under certain conditions, they say. If any of these conditions is fulfilled, then positive interest rates can be compatible with a steady-state economy.

First condition: positive interest rates can exist in a non-growing economy if all income from interest is distributed by commercial banks and re-enters the economy as disposable income for households who spend it. Said differently, banks can charge interest but that interest must not be re-invested, otherwise it does indeed compound into growth. If all interest is spent, the interest expenditure of one actor in the economy turns into the interest income of someone else and the economy remain in a steady-state.

Second condition: if the rate of interest only covers the cost of debt default and so the money lost by bankrupt projects balances the interest paid by the successful ones. If a total of €100 is being loaned into existence at t_0 bearing a 10% interest to ten borrowers, it means they must reimburse a total of €110. But not if only nine (or less) of them pay back their loans, then there is no need for monetary creation – the losses of the bankrupts compensate the earnings of the others.

These conditions, however, are more theoretical than practical. For example, commercial banks do not spend all of the income from interest and do re-invest it, and same for the individuals who are paid by the banks (this is speculation but I guess high-paid bank executives only spend a small portion of their salaries). What these authors did is to refute the claim that there could be no positive interest rate in a non-growing economy; but this does not tell us whether or not the current financial infrastructure and its associated practices are acting as a growth driver. Instead of trying to answer whether or not that imperative exists in theory, it seems more useful here to enquire the relative growth-pressures of different credit systems: e.g. low pressure to grow in mutual credit systems, medium pressure in pawnbroking and moneylending, and higher pressure in bank credit (Gerber, 2015).

And even though it would indeed balance out at the macroeconomic level (I emphasise the *if* for that I think these are idealised assumptions), a positive interest rate would still create an imperative at the individual level, whether it is a household or a firm, with the higher the interest rate (and especially if that is a compound interest rate), the stronger the incentive for monetary gains. *I owe, I owe, so off to work I go*, as the saying goes. Indebted individuals and firms do not console themselves in thinking that it all balances it out at the macroeconomic level, they seek to work and sell more to increase their earnings. Besides, with a limited pool of money for debt repayment, the system is pre-disposed to encourage competition between actors based on their ability to generate monetary value (a problematic feature from the perspective of degrowth). This is why low or null, simple rates of interests are more fitting to a non-growing sector of the economy than high, compound ones.

A solution to this problem would be to issue money debt-free. The idea of debt-free money is often linked to Nobel laureate in Chemistry Frederick Soddy's *Wealth, Virtual Wealth and Debt* (1926). Anticipating a now common division in ecological economics, Soddy argued that, unlike financial wealth that grows exponentially because of compound interests, the real economy of material goods and services could not grow indefinitely. Measuring prosperity in money-quantities was misleading in a system where money could reproduce itself infinitely.

For Soddy, the solution was to curtain the expansion of the financial sphere by removing compound interest (which he intended to do via a debt tax equal to the average rate of interest).

By "debt-free," he meant money loaned into existence without interest – *interest-free* money would be a more precise appellation. One could also say *gratuitous* money as money *free of charge* for its users. Whereas the interest paid on money created by commercial banks constitutes a market price of money,[1] this one is null in the case of a money commons. This does not mean, however, that the costs of organising lending and borrowing disappear. Simply, the price of money is not paid by individual at borrowing point but collectively via general taxation or membership fees (e.g. bank employees, risk of default). The price of money (or to be exact, the price of the service of having access to money) becomes political and users find ways to share the costs of running the currency system (in convertible local currency systems, this usually happen via a membership fee, an out-conversion fee, or funding from outside).

An example of such an interest-free bank is the Swedish *JAK Medlemsbank* (Members' Bank) running since the 1960s and existing officially as a bank since 1998.[2] Set up as a cooperative fully owned by its members, JAK collects savings from some members that it then loans back interest-free to other members – it thus does not create money. In order to manage the allocation of the money saved, it uses a "Saving Points" system whereby members accumulate points when they save and spend points when they borrow.[3] Being a not-for-profit organisation, members pay a loan fee that only covers administrative and risks of default costs (in addition to an annual membership fee of around €30). In that sense, the interest rate paid on a loan only represents the cost of that loan,[4] without any additional profits involved; it is only the cost price of the service of loan giving.

Torrende (2017b) reports on the cost of a 100,000 Swedish kronors loan at JAK (I approximate each amount in euros): for a loan of €9,000 over 10 years with a €14 handling fee, a €27 subscription fee, and a €27 yearly membership fee, the total fee is 3.08%. The JAK system satisfies the non-growth condition of the macroeconomics literature cited earlier since (a) all income from interest is directly spent back into the economy with (b) the rate of interest only covering the cost of debt defaults (plus administrative costs). In the sovereign money proposal of the present goal (and following Goal n°2), all banks would basically run like JAK.

For an equal access to money

Once money is understood as a common good, the question arises as to which access regime should govern its availability. As of today, the way money advantages those who already have a lot of it. Because money is being created via commercial bank granting loans with positive interest, and because people with little property pay a higher rate of interest (because considered riskier borrowers) while people with a lot of wealth pay a smaller one, then interest rate is a

[1] Even though it may be influenced by extra-market institutions, such as the monetary policy of the central bank.

[2] It was inspired by the Danish co-operative *Jord Arbejde Kapital* created during the Great Depression. The Swedish project kept the same name, JAK for *Jord Arbete Kapital* (Land, Labour, Capital) and added *Riksförening för Ekonomisk Frigörelse* (National Association for Economic Emancipation).

[3] This is for basic loans but JAK also offers "Additional Loans" that rely not on already accumulated Savings Points, but on Savings Points that will be earned in the future. In that case, borrowers must save part of their loans until it is fully reimbursed. It is also possible for one member to donate points to another member.

[4] Since a judicial decision in the Summer of 2017, JAK is not allowed to describe the price members pay for their loans as "costs of borrowing" or anything else that would imply it is different from an interest rate (Torrende, 2017a).

form of regressive private tax.[1] Rich households with large savings borrow cheap and benefit from high rates of interest the money they invest, while it is opposite for poor households with little savings and high expenses on the money they borrow.[2] The interest paid to private banks on their loans becomes "a kind of interest-borne seigniorage," a "quasi-seigniorage" that falls disproportionately on the least wealthy (Huber, 2018: 23).

Positive interest rates on loans can be justified different ways. It is a protection against the risk of non-repayment and it compensates the lost ability to use money during the time it is lent (even though one could say that the second justification bears little relevance when money is being brought into existence via the granting of the loan). But in a market economy centred around the pursuit of financial returns, money itself becomes a commodity, with shadow banks acting as buyers and sellers of money-commodity, and official banks benefiting from an economic rent on the issuance of money.

It is important to understand that "banks create the money, not its value" (Huber, 2018: 25). The value of the bankmoney one obtains via a loan is based on the quantity and quality of goods and services that can be purchased with it and the trust of their sellers to accept that money as a means of payment. The currency itself (i.e. the euros on the bank account) are only a vehicle for value beliefs to be symbolically expressed. If that is so, the quasi-seigniorage of bank is illegitimate, and even more if it exacerbates economic inequality and environmental degradation.

The thesis I defend in this goal is that the instrument of money belongs to everyone. In essence, this is the "social credit" of British engineer Clifford Hugh Douglas (1879-1952) and the movement he created in the 1920s in UK. Like Soddy, Douglas believed money should be issued without interest; where he goes further is when he argues that it is the government that should ensure that this debt-free money is available to all citizens in a quantity sufficient to conduct their daily business. This is why in Douglas's original scheme, the money is issued as a monthly universal basic income (for more on Douglas, see Hutchinson and Burkitt, 1997). Putting their savings together in democratic local banks, it is the people themselves who decide who should obtain credit and under what conditions – Douglas spoke "economic democracy" to mean a socialisation of credit.

After the cooperatives banks like the Swedish JAK, the social credit of Douglas gives us the second piece of a degrowth banking system. If in the JAK system all bankmoney comes from individual savings, in the sovereign money proposal I will describing below, it is the government that creates the entirety of the money supply, either directly by spending it into existence (for example via a universal basic income) and indirectly by lending it to banks like JAK that will then loan it to households and businesses. In this system (which I argue is best fitted for degrowth), citizens are granted a universal access to a minimum quantity of money in the form of a basic income. The way to access additional money then functions similarly to today's system with banks granting loans. The difference is that, all banks being not-for-profit,

[1] For example, in France, banks can legally charge as high 19.23% on overdraft, which is a form of credit that falls most heavily on low-income households – the average yearly overdraft is 394 euros; this results in an average fee of €60 and fees as high as €320, often for the poorest households (Opinionway, 2019).

[2] Another way the current monetary system exacerbates inequality is through what Austrian economists call the "Cantillon effect" (named after French-Irish political economist Richard Cantillon, 1680-1734). There is a delay between the time new money is being introduced in the economy and when that additional money supply comes to affect prices (usually inflation). Because the already-rich access money first, it means their purchasing power is least affected by inflation compared to poorer households whose income will slowly adapt to inflation (e.g. via wage update).

there will not be any predatory lending and usurious rates of interests – one could also imagine putting a ceiling on interest rates to keep the price of a loan close to cost price and prevent economic rent.

For democratic investment

The problem with the current monetary system is that the bulk of the money supply is issued into existence via loans granted by for-profit commercial banks. Banks "decide which individuals and firms should receive advances of credit, and which should not. Equally, they decide which industries are to be developed, and where" (Hutchinson et al., 2002: 143-44 cited in Gerber, 2015: 416). Because their purpose it to make money, they tend to mainly lend to projects that are likely to generate financial returns.[1]

In such a system, all actors who do not engage in highly profitable activities (e.g. not-for-profit businesses, cooperatives, NGOs, universities) are disadvantaged in terms of access to credit. This is the survival of the fittest commodity theory of Manno (2000): the system channels more fund towards the development of commodities relative to non-commodities.[2] One such investment is extractive activities. In 2017, 59% of all energy investment went to fossil fuels (around USD1,000 billion – AIE, 2018), and this because they bring faster and larger financial returns on investment than renewables. But "if the oil needs to stay in the ground, the money to extract it needs to stay in the vault" (Reyes, 2018).

Even when central banks intervene to inject money into the system via Quantitative Easing (QE), these fund are not earmarked for specific social-ecological investments. In fact, 63% of the company shares bought by the European Central Bank (ECB) was in high-emission sectors such as fossil fuel extraction and car manufacturing (Martin, 2019). This was not a conscious choice as the central bank committed to the so-called "market neutrality" rule that states that the ECB must buy obligation in proportion of their volume available on the market, and so as to avoid any "distortion." What would have been needed is precisely the opposite: using QE to distort the market, giving an advantage to green sectors.[3]

Instead of buying bonds on the secondary market, the ECB could commit to directly lend a set quantity of money to public banks at a low interest rate and over a several-decade long period. Aglietta et al. (2015) propose to price the "social value of carbon," that is the monetary value associated with avoiding the emission of one tonne of carbon-equivalent greenhouse gases. Any project that reduces greenhouse gas emissions would then become worthy of the price of carbon per ton of avoided emissions. Once acknowledged by public authorities, the financial products allowing to finance such projects (green bonds of some sort, emitted by either public or private actors) could be purchased by the Central Bank. This would send a signal throughout the economy that carbon-reducing projects are "profitable" enough to be granted credits by commercial banks, knowing that part of the value they create (the carbon mitigation) is backed by the Central Bank.

[1] Another negative consequence of positive interests is that it promotes short-termism by discounting the value of longer term investments (Lietaer, 1999: ch.8).

[2] "Ceding monetary prerogatives to the banking industry is like entrusting private lobbyist with lawmaking; like having a parallel private administration managing the same thing that the government tries to manage, but not being accountable in imposing its private preferences" (Hubber, 2018: 137).

[3] Quantitative Easing may have stopped, but the European Central Bank will still renew its portfolio every time an obligation matures; ideally, they could be more selective in the shares they buy, for example following environmental standards.

Under a sovereign money system, the central bank entrusts the government to inject a pre-determined quantity of money in the economy. This is done though via the two channels of public expenses and dissemination via community banks. The State does not have to consider financial returns and can focus on social and ecological objectives, for example granting a universal basic income, increasing the salaries of public servants, or financing Green New Deal types of projects (the latter could be done via the establishment of a National Investment Bank with a political mandate to finance the ecological transition). And because community banks are not-for-profit, one can assume their lending practices will also be immune to a short-termist profit motive.

The main idea behind this objective is that the market allocation of investment based on profits should be replaced by a democratic allocation based on a wider range of returns including social and ecological factors. For this to change, one must modify the criteria used when evaluating the *worthiness* of an investment (to not say *profitability*, which is only one form of worth). One could, for example, take into account the so-called "social value of carbon." In a recent report, *France Stratégie* (2019) estimates that any action that would reduce greenhouse gas emissions by 2030 is worth €250 per ton (€500 in 2040 and €775 in 2050). The value is *social* because it covers a blind spot that is not included in market prices (the *externalities* economists would say); it is the difference between *profitability* and *worthwhileness*. For example, evaluating whether a public transport system should be run fare-free, one should take into account that every tone of CO_2 avoided represents the equivalent of a €250 profit. Following the same logic, one could imagine a diversity of social values attributed to various other social and ecological amenities (this would be close to the rationale behind participatory budgeting except).

And this gives us the third piece of a post-growth monetary system: democratic investment. The debt-free aspect of a banking cooperative like JAK, the public issuance of money like in the social credit of Douglas, and the democratic selection of investment criteria based on ethical factors, either nationally in a sovereign citizen fund or locally via the different lending practices of community banks.

Policy instruments for sovereign banking: Sovereign money

The alternative to the current fractional reserve banking system is *sovereign money*. While this proposal bears several different names,[1] I here follow Huber's (2017) specific "sovereign money" design. Sovereign money is a nationalisation of the process of monetary creation. Under such system, commercial banks lose their power to issue money with the central bank being the only one able to do so. Once pre-set by the central bank, a given volume of money would be issued into existence by the government free of interest.

Proposals of these kinds have a long history.[2] The first – and maybe the most famous – one is known as "The Chicago Plan(s)" and was conceptualized and discussed in the 1930s as

[1] "There are alternatives to the term *sovereign money*, such as *chartal* money, *state* money (Werner), *constitutional* money (Anderson and Morrison), *public* money (Yamaguchi, Mellor), *pure* money (Striner), and *plain* money (Huber and Robertson). *Sovereign money* seems to encapsulate best what is all about" (Huber, 2017: 144-45). Among ecological economists, it is most often referred to as "full reserve banking."

[2] This is not a new question. In the monetary literature, it is often linked back to a 1820s-1840s debate between the *Banking School* arguing that private banks should be responsible for issuing money and the *Currency School* who thought that the process should be politically determined.

a policy response to maintain financial stability after the 1929 stock market crash. The original idea was first formulated by the English chemist Frederick Soddy in the 1920s before being picked up by American economist Frank Knight at the University of Chicago in 1927. After the appraisal of several other eminent economists (including Irving Fisher and Henry Simmons), the idea developed into a memorandum that was brought to President Roosevelt in 1933. Although the plan was never adopted in law due to strong resistance from the banking industry, different variations of it kept emerging in the following years (Currie 1934; Angell 1935; Fisher 1936; Simons 1948; Friedman 1948, 1967).

One needed to wait almost sixty years to see the reappearance of the Chicago Plan idea, most famously renamed as "Positive Banking" by the eponymous London-based think-tank. In 2010, Positive Money launched a nationwide campaign aiming to reform the banking system based on the idea of full reserve banking. In the following years, it inspired several initiatives in around twenty countries (*Monnaie Honnête* in France).

Under a sovereign money system, all money is created within an independent and impartial public institution with a similar status than current central banks.[1] This is the main difference with today's monetary system where most of the money supply is created when commercial banks grant credits. The task of the monetary agency is to determine how much money should be injected into the economy. The same entity would also be responsible for deciding how much money to delete from the system. This would happen with the government collecting taxes, which once paid in official money would disappear just like bankmoney disappears when a loan is repaid.

The money is injected (or rather issued into existence) into the economy by two channels. Part of it is transferred to the government that spends it into existence, for example through the granting of a universal basic income at the national level, the backing of green currencies at the regional level, or the paying of job guarantee salaries at the municipal level. Another part is loaned to commercial banks. With these loans, the commercial banks can grant credits to households and businesses just like they do today.[2] The simplest way to imagine that system is this: all money functions like cash, with one part in form of bills and coins like today, and the other part taking the form of central bank digital currency.[3]

So this is sovereign money as imagined by Huber (2017) among others. I shall now discuss how to adapt this proposal to a degrowth context. The first variation is only a specification on how money is being issued. From a degrowth perspective, all private banks must be not-for-profit, local banks. This shall be a criterion to receive loans in sovereign money from the Central Bank. It would function like Mellor's (2010) "public money" system where the State only loans to democratically-controlled banks.

On the question of how much money to create, Huber (2018: 157) answers that the money supply should be "commensurable with the economy's growth potential, while

[1] "the sovereign money-issuing body would then be a 4th branch of government, the monetary power, complementing the legislative, executive, and judicial powers" (Huber, 2018: 147).

[2] This means that each time a bank wants to loan money, all the money must be backed 1-on-1 by central bank money. There would be no *reserves* anymore but only one type of money moving in a single circuit. Banks would become mere financial intermediaries investing the money already entrusted to them by customers.

[3] "The introduction of sovereign money on account accomplishes today with bankmoney what was accomplished with private banknotes in the 19th century. Bank-issues notes were phased out and replaced with central bank notes. Today, it is about replacing bankmoney on account and bank-issues e-cash with sovereign money on account and sovereign digital cash" (Huber, 2018: 144).

observing additional targets relating to indicators such as inflation, interest rates, as well as asset inflation and related indebtedness." In degrowth context, one would need to adapt the quantity of money to the degree of decommoditisation happening in the economy. The more goods and services can be exchanges without resorting to using money, the less money should be available in the economy. This is, of course, easier said than done. There are perhaps links to be found in backing the money supply with a physical measure of the economy's throughput, for example the carbon budget set in an emission cap scheme. Even after writing this chapter, this is a question I am not prepared to answer at the moment.

What about revenues? One should not expect significant seigniorage revenues in an economy undergoing degrowth or in a steady-state economy. This is because the money supply will be either shrinking or stable. Added to this is the fact that most of the transactions will tend to rely on alternative currencies, then reducing even more the need for sovereign money. And yet, there will be a one-off seigniorage revenue during the transition from the current monetary system to a sovereign money one. The revenues would be significant – Huber (2018: 177) estimates that half of the public debt in the Eurozone could be redeemed using this one-off seigniorage.

From a degrowth perspective, sovereign banking is associated to **3 objectives**:

- toning down the monetary growth imperative resulting from debt money;
- ensuring an equal access to money as a public good; and
- financing selective investment based on democratically-set criteria.

To achieve such objective, I suggested a **sovereign money** reform where:

- commercial banks will lose the power to create money; and
- the money supply will be set by the central bank and issued into existence by public authorities via a network of community banks.

Goal 9: Slow finance

After being designed and issued into existence, money goes places and have a life of its own. Dealing with the type of money (*monetary diversity*) as well as the way it is issued and deleted (*sovereign banking*) must be complemented with a look at how it circulates. This is the trading of financial assets such as bonds, stocks, derivatives, and all other forms of products currently available on financial markets.

The starting assumption behind this goal is that there is too much money in the financial sector. In a profit-driven, market economy, money rises like hot air to the most lucrative opportunities, which often are associated with the buying and selling of financial products. The high potential profit on financial markets pushes up the opportunity cost of money everywhere else in the economy, discouraging investment in activities that look low-profit in comparison.

Why investing in slow return renewable energy when the returns are higher holding credit default swaps on the sovereign debt of poor countries?

As financial markets expand and trading volumes grow, they demand more and more money to operate, making modern finance a key mechanism behind unhinged patterns of monetary creation. Whereas finance may have once been a means to an end (raising fund or insuring harvests, for example), it has turned into an autonomous market with interests of its own. Because of its scale, it has become a risk for the economy as a whole, with potential disastrous social consequences (remember the Global Financial Crisis of 2007-2008).

In the degrowth literature, finance is either ignored or demonised; it is treated as capitalist hubris assuming that it should not exist in the first place. As I intend to show, this is a mistake. Beside its appearance of superfluous gambling, finance is essentially the institution that frames the economic relationship between people through time (e.g. most directly in the case of a pension system by also indirectly via an insurance on food production). There are a number of legitimate reasons to borrow money: delays in production (e.g. no harvest in Winter) and special events in a lifetime like building a house or organising a wedding (Gerber, 2015). There is a diversity of ways of organising that borrowing (Gerber, 2015), from traditional credit systems like Rotating Savings and Credit Associations, pawnbroking, advances on sales or wages, or more recently, bank credit, and not all of them are morally condemnable.

The problem is not finance but *predatory* finance (e.g. instruments who serve no purpose but to make money out of money, often at the expense of vulnerable populations) and *inflated* finance (when the financial sphere is so disproportionately large that it becomes a threat for the rest of the economy). As argued in Chapter 6, it is a matter of proportion. A governing principle must be that the financial sphere remains in par with the real economy, itself in par with the its supporting social and ecological environment. See these three spheres of economic life as a tree where the trunk is the real economy, the roots the environment, and the branches financial activities. If branches grow disproportionally big, they will fall from the tree; if the trunk overgrows its roots, it will eventually collapse.

The goal of slow finance decomposes into a twofold objective. The first one is to (1) de-financialise, that is to remove layers of superfluous financial intermediations, to eliminate dangerous financial products, and to shrink down the overall volume of financial transactions. Then, (2) whatever remains of the financial sector in a degrowth economy must necessary have a social purpose and include social and ecological criteria in the way it selects investment. It means, in other words, that all finance in a degrowth economy must be *ethical* finance.

To de-financialise

Financialisation is "the increasing importance of financial markets, financial motives, financial institutions, and financial elites in the operation of the economy and its governing institutions" (Epstein, 2001: 1). Financial activities predominantly – if not essentially – benefit the wealthy because it is rich people who can afford to save and invest. For example, in 2016 the wealthiest 10% of British people own almost 70% of the entire national financial wealth, including 80% of shares (ONS, 2018). In France, the 1% richest households own 64% of all financial wealth

(Richard, 2017: 155). Besides, the world of finance only employs a few people[1] and it is the sector with the highest concentration of "bullshit jobs" according to Graeber (2018).

The financial market is the most dis-embedded market form because it is dematerialised, often internationalised, opaque, and relatively unregulated. It is a market that has outgrown the political sphere (Strange, 1998). If that is, it means that the more commodities trade on financial markets, the more disembedded an economy is from society and nature. The claim behind this objective is that certain activities that are critical for social reproduction should not be subjected to the uncertainty of financial markets. Farming could be an example. As soon as a farmer contracts a heavy loan bearing variable interest from a for-profit commercial bank, this farmer de facto becomes an actor of the financial market. Regardless of the farmer's aspiration and her local context, the loan must be repaid no matter what – farming has becoming a financial problem. As such, de-financialisation is a constitutive aspect of de-economisation.

The most direct strategy to de-financialise is to ban certain financial products. If looking for inspiration, in 2013 MP Sven Giegold from the German Green Party created a poll among 2,000 financiers to identify "dangerous financial products" (for more, see BBC, 2013). At the top of the list: credit default swaps on emerging markets' sovereign debt, high-interest credit cards, reverse convertible bonds, foreign currency mortgages, investment in extractive industries, and food speculation funds. Also, high-frequency trading could be either banned or taxed like it is already the case in France (taxed at 0.01%) and in Italy (0.02%).

Created in 2011, the European Supervisory Authorities (ESAs) have been granted the power to ban financial products from the market, even though that power is limited.[2] The French national equivalent agency (*Autorité des marches financiers* or AMF – Financial Markets Authority) has used its power to ban financial products for the first time in July 2019 when it rendered the selling of binary options illegal (these had already been charged with a temporary ban by the European Supervisory Authorities ESA a year earlier).[3] The AMF also announced a potential ban on *contracts for difference* (CFD) whose circulation had also been frozen by the European Supervisory Authorities. What this shows is that financial markets are not a Wild West out of all control and that there are instruments to regulate them, granted there is political will for it.

But let us go one step further. Financial innovation goes fast and so instead of relying on afterwards evaluation, one could imagine that, to introduce a new financial product to the market, an investment bank would need to pass a pre-market audit at one of the public agency responsible for regulating financial markets (*Autorité des marches financiers* AMF and *Autorité de contrôle prudentiel* ACP in France; or the European Supervisory Authorities ESA). This is the same logic of democratic auditing I have discussed about technology in general in Chapter 7 but applied to financial products, which like any other tool, should be convivial.

Instead of banning or taxing financial products as they arrive on the market, it might be more effective to act at the source, namely the large banking corporations who are responsible

[1] Most types of production in the *real* economy requires the complementary use of several factors of production (tools, labour, nature). Production in the *financial* economy, on the other hand, do away with natural resources while only requiring minimum equipment (computers and office buildings) and labour (people to program the computers and to manage the funds).

[2] In a 2010 memo, the European Commission specifies that "Yes, the Authorities may temporarily prohibit or restrict certain financial activities that threaten the orderly functioning and integrity of financial markets or the stability of the whole or part of the financial system in Europe in the cases specified in sectoral legislation (e.g. the proposal on short-selling) or if so required in the case of an emergency situation" (European Commission, 2010).

[3] In the US, derivatives were banned after the Great Depression (Mazzucato, 2018: 112).

for most financial innovation. For example, in the United States in 2010, only five large banks control 96% of all derivative contracts (de Vito and Barba, 2012). The objective here is simple but radical: to break up the big banks. It can be justified on a number of grounds, either because the high concentration of banking activities constitutes a systemic risk for the financial system as whole, because with large banks come large lobbying power, or because it incentivises risk-taking with the guarantee of a public bailout. Going that direction, American Senator Bernie Sanders introduced a bill in 2018 that would force the federal government to dismantle banks larger than 3% of national GDP or around $584 billion, which would currently apply to six banks[1] (for more, see Lane, 2018).

Another way of reducing the power of large financial conglomerates is to re-establish the division between saving banks and investment banks. This was the measure put in place by Franklin D. Roosevelt in the Glass-Steagall act of 1933 just after the Great Depression. The same rule came into being in France in 1945 as the *Law 45-15 relating to the nationalisation of the Banque de France and of large banks and to the organisation of credit*. A noteworthy institution established by that law was the National Council of Credit (*Conseil national du crédit*) whose responsibility was the overall planning of the banking sector. The French law was repealed in 1984 under the Mitterrand government in the name of "modernising" the banking system (the same happened to the American Glass-Steagall act in 1999).

Additionally, one could slow financial markets down by imposing taxes on each transaction. The goal is to minimise what former chairperson of the British Financial Services Authority Adair Turner (2009) termed "socially useless" financial activities. "To throw sand in the wheels of the excessively efficient international money markets" in American economist James Tobin's (1978) own words. In their review of econometric studies, the French *Autorité des Marchés Financiers* (AMF, 2017) reports that a tax on financial transaction reduces volumes of trade by 10-20%. Ultimately, such tax can apply to any financial transactions. For example, in 2018 the radical left party *La France Insoumise* proposed a progressive tax on real estate transactions above 1 million euros: 1% between 1 and 10 million euros and 10% above that. Imposing a tax on all financial transactions in official money would be a good way of advantaging alternative currencies.

From a degrowth perspective, it is perhaps a mix of those that is best fitted. Limits on financial transactions for degrowth would include both bans on harmful financial products, regulations to dismantle large banks, and taxes on financial transactions.

For ethical finance

I use the term "ethical banking" to describe financial activities whose primary purpose is something else than monetary returns. A renewable energy project that finances itself by emitting community bonds has a purpose: to build renewable energy infrastructure and not to make money out of it. One could invest on listed companies according to a wider range of criteria than the sole maximisation of financial returns (Socially Responsible Investing). One can lend private savings to a friend at no additional interest than the cost of borrowing. A bank can provide reserves for the creation of a convertible local currency and there can be micro-lending in local money out of the collected fees of an alternative currency association. What all

[1] Citigroup, JPMorgan Chase, Goldman Sachs, Bank of America, Wells Fargo, and Morgan Stanley.

these practices have in common is that they turn money into financial products to achieve a social and/or ecological mission.

In the sovereign money system I described above, it will be the responsibility of community banks to handle the savings of households and businesses. In 2019, more than 1,000 investors for a total of $11,000 billion (16% of global financial capital) pledged to divest from fossil fuels (AFP, 2019). This means that there must be outlets for these savings suddenly becoming available. In France in 2018, the so-called "solidary savings" totalled 12,56 billion euros (Finansol, 2019), so roughly 10% of total savings – 113 billion euros in 2018 (Banque de France, 2019) but only 0.25% of all financial wealth (Finansol, 2019).

As we saw in Goal 1: Monetary diversity, any complementary local currency (CLC) requires to have its full monetary mass saved in euros at the bank for back-up. This "magic doubling" (Lepesant, 2013: 4, mt) means that for every unit of CLC being used there is a euro being saved. While the law states the money should be there, it does not forbid its investment. Plassard (cited in Lepesant, 2013: 15) proposes to use the reserve fund to purchase agricultural land. Lepesant (2013a: 16) goes further and proposes a triple use of the fund: invest in social-ecological projects, purchase land, while keeping enough liquidity to manage reconversion back into euros.

Bauwens and Pazaitis (2019: 108) describe such hybrid systems with alternative currency and official currency mixed to achieve social and ecological objectives:

> "A potential solution can be provided by finance schemes, engaging stakeholders from state, private and civic entities, that acknowledge and reward these positive externalities. For instance, the official water agency, which can potentially save substantial funds from depollution expenditures, would agree to finance *Terre de Liens*, and any other actor achieving the same effects, in proportion to what it saves. Ecological State Protocols, based on the model of *Regen Network* [an online platform to manage green investments], could be instituted to verify and log the ecological status of this particular piece of land and record its improvement. Positive results, such as lower carbon emissions, increased biodiversity, improved food quality, and higher degree of social inclusion through the provision of employment, could be coupled with the issuance of tokens. This way, a mechanism can be developed through which the verified savings of the agency could be used to buy-back the tokens, thereby initiating a virtuous cycle towards generative activity. We could call these sets of mechanisms 'circular finance,' as they reflect the necessary circularity of the physical economy."

Policy instruments for slow finance: Limits on financial transactions

The main policy instrument for this goal is a tax on financial transactions (hereafter FTT).[1] In 1972, the American economist James Tobin proposed a 0.5% tax on the buying and selling of currency that would apply to "all payments in one currency for goods, services and real assets sold by a resident of another currency area" (Tobin, 1972, 1974; quotation is from Tobin, 1978).[2] Tobin's attempt to slow down speculation on financial markets was a reaction to the

[1] I say "main" because several other changes affecting finance have already been discussed in this chapter – e.g. dismantling large financial firms, banning dangerous financial products, and developing ethical community banks.
[2] Tobin (1996) modified his proposal twenty years after by including *forward* and *swap transactions* into the tax base.

rising instability that followed the unpegging of the dollars to gold under the Nixon administration one year before.

While held at the margin of mainstream economics and policymaking, the so-called "Tobin tax" gained currency after the financial crisis of 2008. In June 2012, 51 individuals signed the "Letter from Financial Industrial Professionals in Support of Financial Transaction Taxes" inviting policy makers to tax the financial sector.[1] In February 2013, the European Commission published a proposal for a European Financial Transaction Tax concerning 10 of its member states[2] with minimum thresholds set at 0.1% for equities and bonds and 0.01% for derivatives. Today a diversity of financial transaction taxes exists in more than 24 countries around the world (BNY Mellon, 2018).

In France, the idea of an FTT was popularised by Ramonet's (1997) and Warde's (1997) articles in *Le Monde Diplomatique*.[3] The organisation Attac (originally "*Action pour une taxe Tobin d'aide aux citoyens*," action for a Tobin tax for citizens, mt) was created the year after to promote the policy, albeit with a broader reach than Tobin including all financial transactions and not only the ones involving currencies. In 2001, the French National Assembly agreed with the tax in principle but posed as a condition that it should be introduced only after a European-wide agreement. In March 2011, the European Parliament supported the idea and the European Commission made a proposal in 2013 with eleven Eurozone countries committed to follow suit. In France, the tax came into being in January 2012 first as 0.1%, then raised to 0.2% in August 2012, and to its current rate of 0.3% in January 2017.

The financial tax currently in place in France concern three types of transactions. (1) The buying of the stocks of listed companies with a capitalisation above 1 billion euros (around 140 firms); and two practices considered speculative: (2) high-frequency trading and (3) the trading of credit default swap on sovereign debt. It is currently set at 0.3% of acquisition value (except the one concerning high-frequency trading that is set at 0.01%), paid by the buyer, and collected by financial intermediaries on behalf of the State. The tax only applies to over-the-counter transactions on a spot market, so excluding forwards and futures among other exemptions.[4] It is paid by the buyer on the final volume of transactions at the end of a day.[5] In 2016, the revenue of the tax was 983 millions (450 million went to the State budget, 533 to development assistance); it was 1.45 billion in 2017 when the rate was raised to 0.2%; and 1.5 billion in 2018.

The tax in its current design has been criticised on a number of grounds. First, the part concerning derivatives and credit default swaps on sovereign debt has no effect. The portion on high-frequency trading misses all transactions (the revenue of this portion of the tax is actually

[1] "As individuals with first-hand knowledge and significant experience in the financial industry, we urge you to introduce small financial transaction taxes (FTTs). These taxes will rebalance financial markets away from short-term trading mentality that has contributed to instability in our financial markets. […] New FTTs, whether agreed by the G20, EU, or by individual countries, offer a real opportunity to help restore the financial sector to its proper role, while raising massive revenues for people in urgent need at home and in the world's poorest countries. We believe this is an opportunity that should not be missed" (see Anderson, 2012).

[2] France, Germany, Belgium, Austria, Portugal, Slovenia, Greece, Italy, Spain, and Slovakia.

[3] Even thought it had been proposed a handful of time before that, for example by president François Mitterrand at the Social Summit of Copenhagen in 1995, the publications in *Le Monde Diplomatique* followed a landmark publication in 1996, the first book on the Tobin tax (ul Haq et al., 1996).

[4] Are exempted from the tax: issuance of securities, securities lending and repos, transactions processes by a clearing house, liquidity contracts, intra-group transactions, and acquisitions part of employee saving schemes.

[5] So if one buys 10 stocks of company A and re-sells them in the same day, then no transaction is taxed.

€0) because its threshold of speed is set too high and most importantly because all market-making activities are exempted, when it is there that the bulk of high-frequency trading occurs (Migaud, 2017: 3). Then, because the tax is paid by the buyer on the service sold by a financial service firm, the firm then just includes the amount of the tax into its price, then shifting the tax burden onto the customers.

From the perspective of degrowth, the long-term goal is the shrinking of the financial sphere in its entirety. For that goal, the current FTT is too mild and selective. A more aggressive type of FTT is the *pollen tax*, also called *super-Tobin tax* or *automated payment transaction tax*. The idea was developed by American economist E.I. Feige at the end of the 1980s – in his scheme, a pollen tax of between 0.15% and 0.24% would come to replace the entire federal and State tax system (as described on the *APT Tax* website). Instead of taxing income, production, or consumption, it is the circulation of money itself that would be taxed with the tax applying on every single monetary transfer (from the buying of derivatives to the withdrawing of money from an ATM). Such tax exists in certain alternative currency systems; for example, the Bristol pound where a 1.5% fee is levied on all transactions made with business partners (the money is then used to finance small grants for local projects), or the German Chiemgauer where 0.02% is taken each day on the digital version of the currency.

Let us imagine how a pollen tax would then function in France. It could be organised like Value Added Tax categories but applied to financial transactions. A base rate would be applied to all transactions like in a Pollen tax, yet certain ones would be exempted (all the ones in alternative currencies), and others more heavily taxed. Instead of private rating agencies, there would be public, democratic, and transparent agencies that would grade financial products.

From a degrowth perspective, slow finance means achieving **2 objectives**:

- reducing the importance of the financial spheres by banning dangerous products, dismantling large banks, and regulating transactions;
- making sure all finance is ethical, meaning put at the service of a social and ecological mission.

To achieve such objectives, I suggested a **tax on financial transactions** to be applied on all monetary transactions with differing rates.

Conclusions for Chapter 11

FROM a degrowth perspective, transforming money means challenging the hegemony of general-purpose bankmoney and reintroducing a plurality of alternative monies (*monetary diversity*), nationalising the ability to create and destroy money (*sovereign banking*), and re-embedding the financial world into society and nature (*ethical finance*).

The first goal is to increase **monetary diversity**. Regaining control over the design of a currency allows to reshape money based on social and moral values. Alternative currencies can

be used to encourage responsible consumption and relocalise economic activities, and can even be an intermediary step towards a complete demonetisation of activities of provision. To generalise the use of alternative monies such as Local Exchange Trading Schemes, time banks, and convertible local currencies requires legislative, fiscal, and financial help from public authorities, as well as support from consumers and businesses.

The second goal is **sovereign banking**. Democratic control over the ability to create money puts an end to the commoditisation of credits and the pressure it puts on economic growth. It also ensures an equal access to money then considered a public utility and enables a more selective strategy of investment favouring sectors that benefit the common good. To achieve these objectives, I suggested to undergo a sovereign money reform where the power to create money would be taken away from for-profit commercial banks and organised democratically as a public branch of the government instead.

The third goal is **slow finance**. If the financial sphere is today disproportionate with the rest of the economy, slowing down finance means de-financialising: dismantling large banks, ensuring a sound division between credit and investment activities, banning dangerous financial products, and imposing price controls on transactions. All remaining financial activities must be ethical in the sense of being motivated by social and ecological missions and not by moneymaking. To achieve these objectives, I suggested a tax on financial transactions with differing rates.

Chapter 12

Transition strategy

HOW do all these degrowth policies fit together? If the first phase was about gathering ingredients (Chapter 9, 10, 11), it is now time to mix these into recipes. In the literature, policy instruments are too often studied independently, running either in parallel (e.g. a basic income *and* a maximum income) or in competition (e.g. a basic income *versus* a job guarantee).[1] An assumption underlying the present work is that a degrowth transition is more than the sum of its individual policy, and so what needs to be done is to bring these ingredients together and study their interlinkages. So the watchword of this chapter is *interaction*. How do the nine policy instruments of the previous chapters would (and should) interact with each other as to create fertile conditions for a degrowth transition?

I use the policy objectives and instruments mentioned in the past three chapters (which I refer to by their number from 1 to 9).[2] Whereas the previous chapters only gave a partial view of degrowth, this one shows it all: degrowth is not about changing property *or* changing work *or* changing money, but about doing all of that at once. Yet, with 9 policies instruments, this gives us already a high number of different sequences of implementation without even changing the details of each policy. If we give each policy a three-level scale of low, medium, and high, this number rises up to an ungraspable level.

In order to find the needle in that enormous haystack, we need a method, and this is what this chapter offers. It should be made clear that I am not looking for the one combo, like a spell that would instantaneously turn capitalism into degrowth. Policymaking is not magic. Instead, I hope to show that thinking about policy interactions is a useful exercise in the planning of a transition. Ultimately, the added value of this chapter is methodological. What I offer here is a method to study policy agendas. To illustrate that method, I apply it to the policy

[1] Only several authors have ventured in articulating different policies together. Gunderson (2018) wants to achieve shorter working hours in democratically controlled workplaces; Weeks (2011) hopes the demand for shorter hours will open up a public debate about work values; several authors propose to give part of a basic income in local currencies (e.g. MFRB, 2016a, 2017; Liegey et al., 2013; Lepesant, 2013b; Mylondo, 2012; Ariès, 2009); some bundle basic income and maximum income in their design (Vicherat, 2015; Alexander, 2015; Liegey et al., 2013; Lepesant, 2013b; Mylondo, 2012); certain consider the basic income as a means to achieve WTR (e.g. Dourgnon, 2017: ch.3; Frayne, 2015: 225; Michalon et al., 2013: 133); the MFRB (2016b: ch.10) and Le Naire et Lebon (2017: 101) put forward monetary creation as a way to finance a basic income; others fund the basic income via eco-taxes (Otto Andersson, 2009) or a Tobin tax (Vanderborght and Van Parijs, 2017: 153).

[2] As a reminder: (1) sharing possessions, (2) democratic ownership of business, (3) stewardship of nature, (4) work time reduction, (5) decent work, (6) postwork, (7) monetary diversity, (8) sovereign banking, and (9) slow finance.

programme of the previous chapters, but the insights are necessarily limited because I ran the analysis alone, whereas a policy agenda of this width would have required several participants of diverse kinds. All insights should then only be considered as examples resulting from an experimental running of the method.

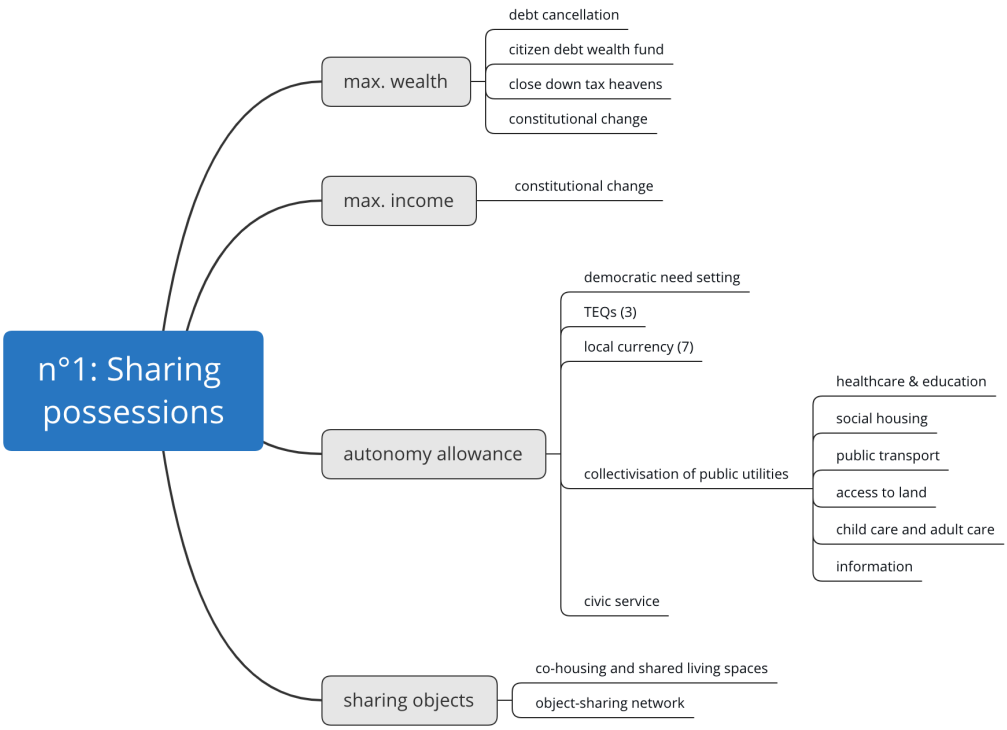
The method consists of four steps. First, I decompose each individual policy bundles into a hierarchy of instruments (I call this *policy decomposition*). Then, I compare each bundle based on five criteria (timing, compatibility, popularity, stakeholders, and risks). The third step studies the expected impacts of each policy both individually and together. Learning from these three analyses, the final step proposes several design ideas on how to articulate policies with each other within one coherent strategy. Keep in mind that it is the final step (the building of a strategy) that matters most and that the previous steps are only means to that end.

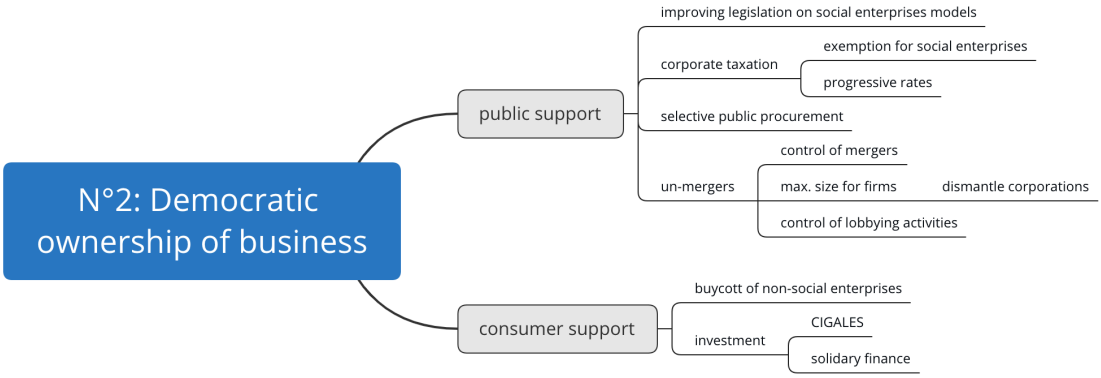
Policy decomposition

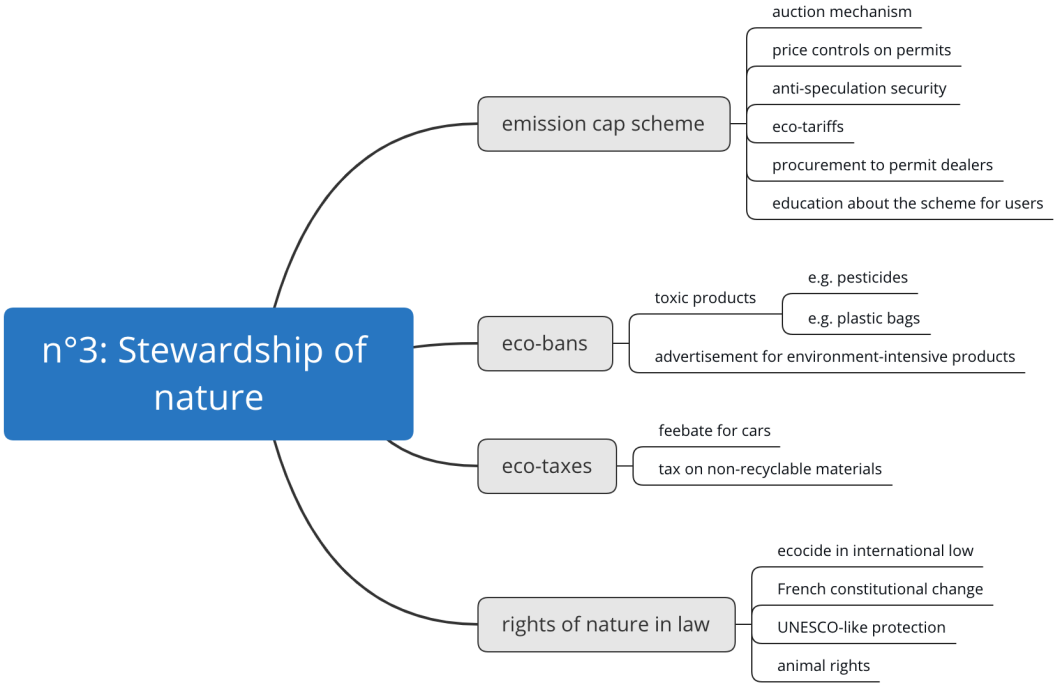
One policy may hide another. I have called each of my nine policy instruments "policy *bundles*" because they each include a number of changes at different levels involving various actors. For example, a 100% tax on income requires a number of smaller interventions as to become possible: e.g. changing the constitution, establishing a citizen wealth fund, or preventing fiscal evasion. The objective of this first section is to unfold each of the bundles to see all the social interventions they contain. I represent these policy hierarchies in diagrams showing how *central* or *core* policies (towards the left of the diagram) depend on an array of *enabling* or *peripheral* policies (towards the right).

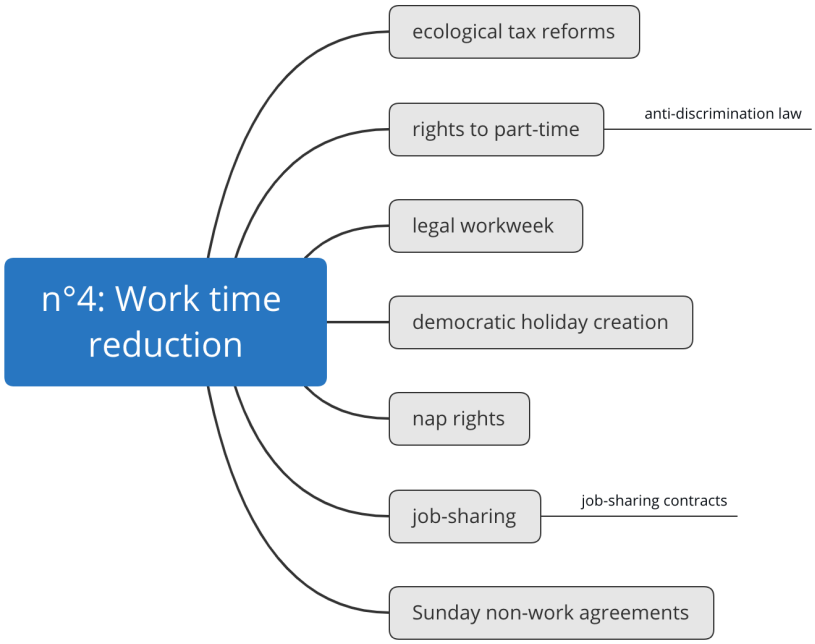
To illustrate, let us look at the first policy bundle in the diagram just below (n°1: Sharing possessions). One of the policy instrument I have associated with that goal is an autonomy allowance. To unveil the peripheral instruments that would enable the introduction of this central instrument, one must ask: "What kind of policy instruments are necessary to make the introduction of the *autonomy allowance* possible?" Local currencies, for example, must be in circulation if they are to be included to the allowance. So again: "What kind of policy instruments are necessary to make the introduction of *local currencies* possible?" At each round, a policy instrument branches out to a diversity of other instruments. It is like in the movie *Inception* (2010)[1] except with policies instead of dreams: *a policy within a policy*.

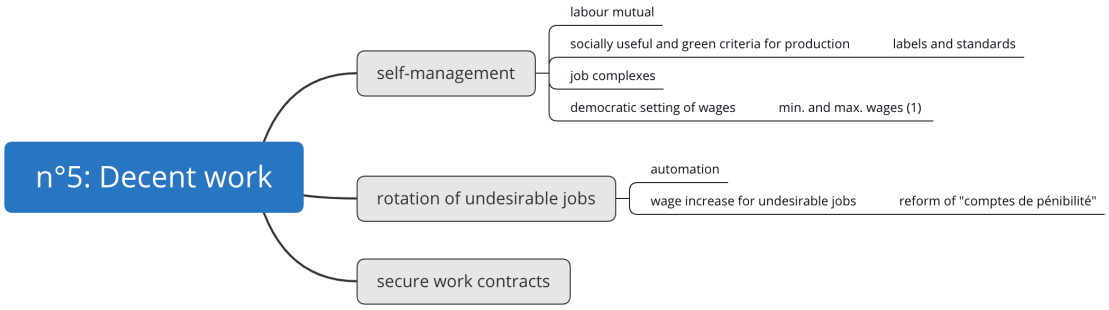
[1] The website IMDB describes the plot of the film *Inception* (2010) as such: "A thief who steals corporate secrets through the use of dream-sharing technology is given the inverse task of planting an idea into the mind of a CEO."

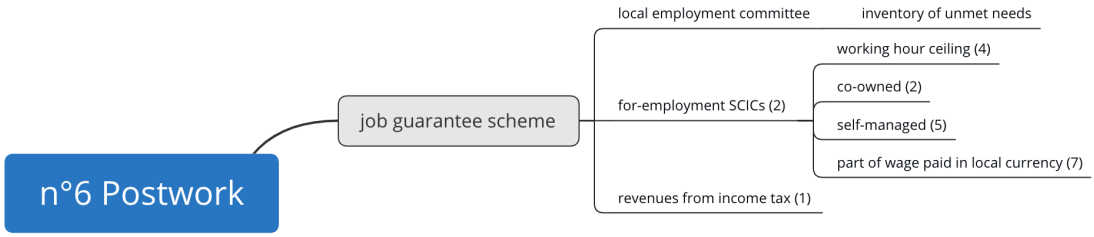

n°1: Sharing possessions
max. wealth
debt cancellation
citizen debt wealth fund
close down tax heavens
constitutional change
max. income
constitutional change
autonomy allowance
democratic need setting
TEQs (3)
local currency (7)
collectivisation of public utilities
healthcare & education
social housing
public transport
access to land
child care and adult care
information
civic service
sharing objects
co-housing and shared living spaces
object-sharing network

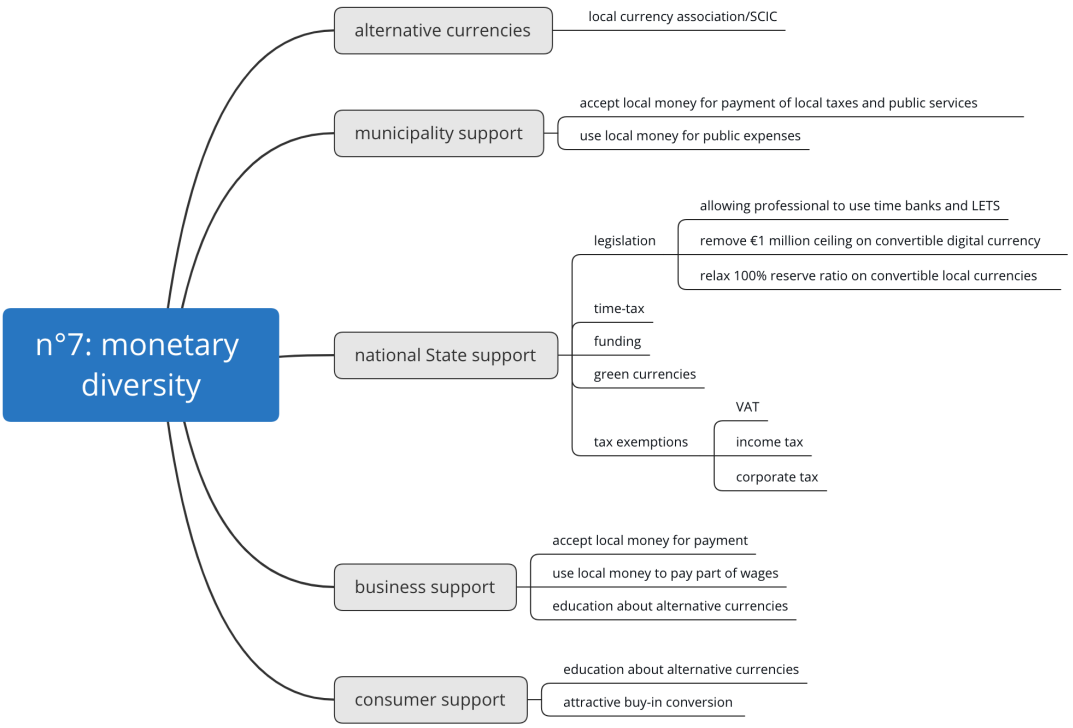

N°2: Democratic ownership of business
public support
improving legislation on social enterprises models
corporate taxation
exemption for social enterprises
progressive rates
selective public procurement
un-mergers
control of mergers
max. size for firms
dismantle corporations
control of lobbying activities
consumer support
buycott of non-social enterprises
investment
CIGALES
solidary finance

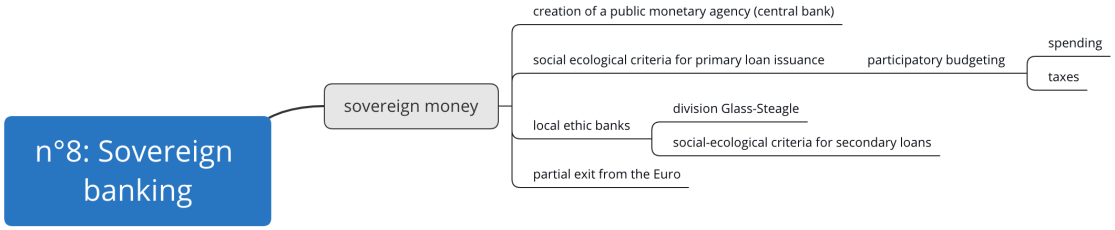

n°3: Stewardship of nature
emission cap scheme
auction mechanism
price controls on permits
anti-speculation security
eco-tariffs
procurement to permit dealers
education about the scheme for users
eco-bans
toxic products
e.g. pesticides
e.g. plastic bags
advertisement for environment-intensive products
eco-taxes
feebate for cars
tax on non-recyclable materials
rights of nature in law
ecocide in international low
French constitutional change
UNESCO-like protection
animal rights

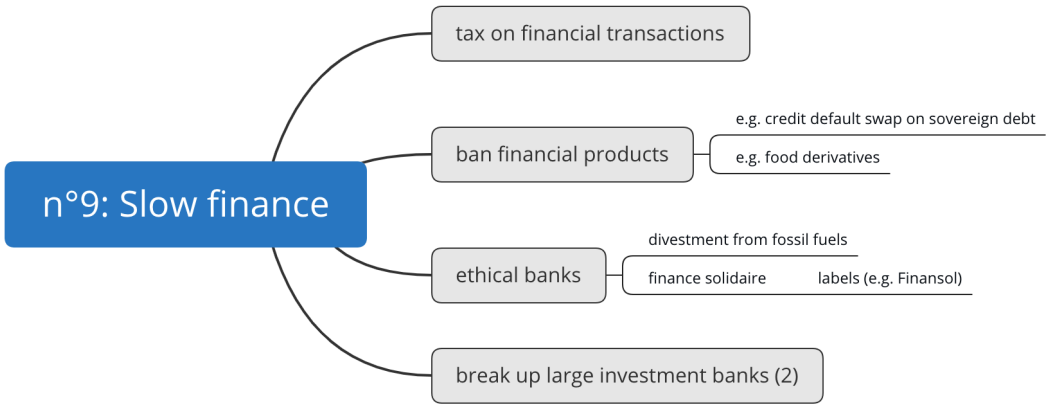

n°4: Work time reduction
ecological tax reforms
rights to part-time
anti-discrimination law
legal workweek
democratic holiday creation
nap rights
job-sharing
job-sharing contracts
Sunday non-work agreements


n°5: Decent work
self-management
labour mutual
socially useful and green criteria for production
labels and standards
job complexes
democratic setting of wages
min. and max. wages (1)
rotation of undesirable jobs
automation
wage increase for undesirable jobs
reform of "comptes de pénibilité"
secure work contracts


n°6 Postwork
job guarantee scheme
local employment committee
inventory of unmet needs
for-employment SCICs (2)
working hour ceiling (4)
co-owned (2)
self-managed (5)
part of wage paid in local currency (7)
revenues from income tax (1)


n°7: monetary diversity
alternative currencies
local currency association/SCIC
municipality support
accept local money for payment of local taxes and public services
use local money for public expenses
national State support
legislation
allowing professional to use time banks and LETS
remove €1 million ceiling on convertible digital currency
relax 100% reserve ratio on convertible local currencies
time-tax
funding
green currencies
tax exemptions
VAT
income tax
corporate tax
business support
accept local money for payment
use local money to pay part of wages
education about alternative currencies
consumer support
education about alternative currencies
attractive buy-in conversion





It is a mistake to focus all policymaking efforts on one solve-it-all policy. Instead, one should consider which secondary policies hide behind the one considered central. For instance, a sovereign money reform might not reach its full expected impacts without an already existing network of community banks ready to channel loans into existence; an emission cap scheme might malfunction without eco-tariffs to price the emissions embedded into imported goods; and a job guarantee is bound to quickly become obsolete without a well-functioning local employment committee. Each policy requires a number of others *enabling* policies, and each of these enabling policies might also have enabling policies of their own.

In decomposing each policy, we see that certain changes interlace with others. For instance, the emission permits (n°3) are granted as part of the autonomy allowance (n°1) and may inform the optimal volume of the money supply (n°8). While I will detail these policy *couplings* in more depth in the final section of this chapter, suffice to say here that the interlinkages between policies impose a specific schedule of implementation – for example, local currencies must already be in place if one desires to denominate a portion of the autonomy allowance in alternative money.

Policy comparison

Each policy should be treated as unique. Before looking at interactions, there are several aspects I want to know about individual policies: the speed of their implementation and whether they are gradual or sudden (*timing*); whether they are compatible with the existing legal and cultural infrastructure (*compatibility*); who is likely to support them and who is likely to oppose them (*popularity*); the stakeholders they involve and the scale of their implementation (*stakeholders*); and the risks associated to them (*risks*).

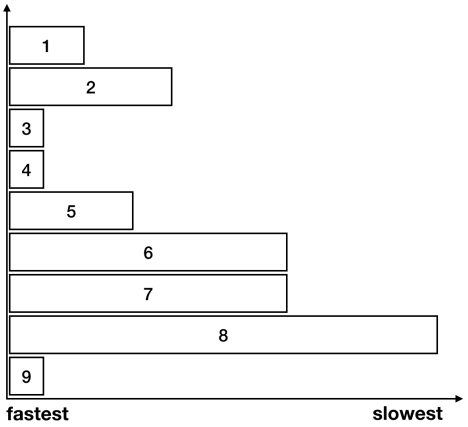
For each of these aspects, I first draw a table with a box for each policy and then offer a number of comments on the agenda as a whole. (Again, let us remember that these tables serve the purpose of better understanding interactions between the policies in order craft an effective transition strategy – the last step of this method.)

Timing

Some policies take longer to implement than others. For example, it takes around two years to establish a local currency, while changing the rate of income tax can be done from one year to the next. Additionally, certain changes occur at once, that is relatively irreversibly (e.g. a transition to sovereign money or the establishment of an emission cap scheme) while others are more gradual (e.g. the transition of firms towards forms of self-management).

1	**Fast** (starting the year after): changes in progressive taxation of income and wealth. Exception: The autonomy allowance is fast to implement but can be made slower if it is used as a process to collectively determine what should be considered a sufficient, frugal lifestyle. → at once or gradual
2	**Fast** (weeks-months): setting up a new business is a matter of weeks (as fast as one week legally to create a new business and as fast to change the status of an existing one); it is quite longer to organise the splitting of large companies (4-6 months if compared to an average merger). → at once
3	**Fast**: the result is achieved from the start with emissions capped by design → at once
4	**Fast** (months): people can reduce their working time from one month to the next, and so can a company individually decide to do so; national legislation can be introduced at any time but takes longer; and sector-based agreement are slower. → gradual
5	**Fast** (weeks): any firm can suddenly decide to become self-managed, even though it maybe takes time for employees to settle into the new habit. → gradual
6	**Slow** (years): it takes time to gather all the stakeholders together and to set up the for-employment company and the local employment committee – at least 1 year in the French TZCLD (Hédon et al., 2019) → at once
7	**Slow** (years): 1-2 years to establish an alternative currency (Blanc, 2018) → gradual
8	**Slow**: 3-5 years for a complete transition (Huber, 2017)

	→ at once
9	**Fast**: all the instruments and institutions are already in place → gradual



There is a clear division between the fast *top-down* interventions handled by public authorities (e.g. tax on financial transactions or maximum income) and the slower *bottom-up* ones that rely on community initiatives (e.g. job guarantee and alternative currencies). With the goal of decentralising governance, having such a different pace means that public policies should be reactive to the specific needs of slower changes at the grassroots level.

Depending on their magnitude, certain policies need more time to unfold. For example, a lowering of the legal workweek can go through phases (e.g. from 35h to 32h, and then to 28h two years after that, and then to 21h, and so on). Similar situation for taxing wealth, income, and regulating financial transactions. Changing the upper tax bracket from the current 45% to 46% will probably take less time than changing it to 100%, which requires, not only further political deliberations but also enabling policies (e.g. a constitutional change and safeguards against tax evasion).

Certain changes have an expiry date. For example, the *Autorité des Marchés Financiers* (the French authority in charge of regulating financial markets) may be very active early on to ban financial products but will cease to be necessary once all businesses (including banks) have become social enterprise and once the financial sector has significantly shrunk. Another example: once work time has been reduced, the goal is achieved, even though the legislation, e.g. rights for part-time workers and legal workweek, remain.

Compatibility

Policies are not proposed in a social void but in complex legal, political, and cultural situations with rules and customs already in place. Compatibility has to do with how congruent a specific policy is with existing infrastructure and practices. Certain policies already exist or have already existed while others are completely novel. The table below clarify which ones are which.

1	**existing** for maximum income in certain sector e.g. 1-7 in Social and Solidary Economy (ESS) Current highest rates: 45% after €156,245 per year

	unprecedented for maximum wealth Current highest rates: 1.5% on personal wealth above €10 million, 45% on inheritance above €1.8 million **unprecedented** for basic income Similar: guaranteed minimum income (RSA) at €485; minimum pension at €868
2	**existing**: association, SCOP, SCIC 3,311 social enterprises in total in 2018 (including the two previous) Among those: 692 SCICs (2019), exists since 2001-2002 (ESUS status since 2014) 1.3 million associations (2016) **existing**: taxes on profits Current highest rates: 31%; + *social contribution* (+3% of profit tax) and *exceptional contribution* (+15-30% of profit tax) **existing**: preferential public procurement for SCOPs
3	**unprecedented**: Similar: energy voucher (*chèque énergie*) between €48 and €277 (since 2018)
4	**existing**: various laws currently regulate working time 35-hour legal workweek (since 1998-2000); 5 weeks paid holidays; 11 red days
5	**existing**: SCOPs and other informal models 2,366 SCOPs (2017) Similar: company referendums since 2017; self-organised labour mutual for entrepreneurs
6	**existing**: *Territoires Zéro Chômeurs de Longue Durée* Run as an experiment since 2017; 811 jobs created in 2017 and 2018 Similar: subsidised jobs (*emplois aidés*) since the 1980s; civic service since 2010
7	**existing**: 759 alternative money projects in 2019 40-50 convertible currencies, 676 LETS, 38 time banks; recognised by legislation in 2014
8	**unprecedented**:
9	**existing**: tax on financial transactions Since 2012: at 0.3% since 2017 on company shares, and 0.01% on high-frequency trading Similar: private credit networks like the CIGALES since the 1980s (250 networks running in 2017); Similar: €12.5 billion of solidary savings in 2018 (0.25% of all financial wealth) Similar: prohibition of credit default swaps on sovereign debt since 2012; binary options in 2019 ethical banks like *NEF* (since 1988) and *Crédit Coopératif* (since 1984)

Certain changes involve the generalisation of practices that already exist (7, 6, 5, 2), others a modification of a system already in place (9, 4, 1), while some require new legislation and new practices altogether (8, 3, 1 for autonomy allowance). This can generate several problems. First, policies can just be added without abandoning the previous ones. This layering can create problem of *congruence* if the new policies conflict with the previous ones (e.g. job guarantee with low hours alongside an increase in hours in the private sector), or just clutter a situation with unnecessarily thick legislation (e.g. financial regulations). Substituting one instrument for another can create *coherence* problem if the objective remains the same (one should not expect a SCIC to make a profit or a time bank to boost local GDP).

The compatibility varies depending on the magnitude of the changes. For example, a 100% ceiling on income (more than twice the current maximum) and wealth (more than 66 times the current maximum) is likely to be deemed unconstitutional, and so their passing would require a change of constitution – like the United Stated did in 1913 to accommodate its first income tax, and like Richard (2017) and Piketty (2019) propose to do today in France. Alternative currencies are tolerated under certain conditions (e.g. that the entirety of the local money supply is matched with saved euros, that the use of time banks and Local Exchange Trading Schemes is only occasional and non-professional). There is a difference between

offering the option to firms of structuring their activity around a social mission and imposing all of them to do so, which would require legal changes. A job guarantee with a few participants can be funded out of current unemployment-related expenses in a cost-neutral manner but cannot be when it includes a high numbers of workers leaving their private jobs to take part of the community scheme.

As radical as degrowth is, it builds on a number of reforms and initiatives that have been pursued without any degrowth-related objectives. The three last French governments, regardless of their political leanings, all marched in favour of a tax on financial transactions. These are opportunities to use the momentum for these policies to promote other related ones, for example here a sovereign money reform, which could be presented as a tool for improving financial stability even though it does more than that (this is the *Trojan horse policy* strategy). While proposing to create an alternative currency would perhaps be wishful in a situation where there is none already existing, the proposal becomes pragmatic when there are many of them. Same for self-management: the policy is more convincing if it builds on a diversity of international and national successful experiences. A realist policy agenda should build on initiatives that already exist and use them as stepping stones towards more radical social innovation.

Another aspect I have not considered in the above table is the compatibility of my policies with international agreements. For example, part of the European Financial Transaction Tax initiative, France committed to set the tax level at least 0.1% on shares and 0.01% on high-frequency trading and going under these levels would be a breach of that agreement. More concerning, there might be heavy European discussions involved before France can safely go through a sovereign money reform. Similar situation for an exit from the EU Emissions Trading System (EU ETS). The European Commission recommends member states to keep its corporate tax around an average 25% and demands that VAT rates should not go below 5.5%. France is embroiled in a number of trade agreements, which may impact its liberty concerning certain regulations.

Popularity

Certain policies are more popular than others. By popularity, I mean the sentiment of different actors towards the policy. This is pure guess work for that I do not have empirical material to back these claims but such an analysis can at least provide hypotheses to be further tested. To simplify, I indicate who is likely to find these policies *popular* (🙂) and who is likely to find them *unpopular* (🙁).

1	🙂 13.6% of people earning less than 60% of the median income 🙁 the 1-2% and 1% above the income and wealth ceilings
2	🙂 the 99.85% of existing businesses with less than 250 employees; local businesses; the 3,311 existing cooperatives 🙁 the 292 large and 5,800 medium corporations that will be required to split up
3	🙂 everybody concerned about the environment; poorest households

	😕 fossil energy companies (€35 billion turnover, 64,000 jobs) and emission-intensive sectors[1]; it might be rejected by the government on the ground that there is already a carbon tax and a carbon market
4	🙂 the 200,000-500,000 workers experiencing a burn-out; the 24% of all employees in a situation of extreme stress; 50% of workers performing bullshit jobs[2] 😕 employer federations like MEDEF
5	🙂 employees 😕 employer federations like MEDEF
6	🙂 2.8 million job-seekers + 1.5 million in the unemployment halo + 3.7 million in under-employment; government reducing its unemployment-related expenditures (€42-50 billion per year); communities satisfying unmet needs[3]; already supported by the government 😕 local businesses if the non-competition rule is lifted
7	🙂 the 200,000 businesses of the Social and Solidary Economy; the 54,000 users of convertible local currencies[4] 😕 government who loses control over monetary policy; commercial banks
8	🙂 low-income households have access to cheap credits; government being able to reduce its public debts and the cost of its servicing; beneficiaries of selective investment (social-ecological initiatives) 😕 commercial banks
9	🙂 government and all those benefiting from more financial stability 😕 financial actors

Most policies are the classic class struggle: a majority of powerless people against a majority of rich individuals. Looking at absolute number of people, certain changes seem to be overly consensual: n°1 (13.6% for vs. 1-2% against), n°2 (99.85% for vs. 0.15% against), or n°3 (several large fossil companies against the rest). And yet, politics is not one-person-one-vote direct democracy, and the picture significantly change when one accounts for money interests. Even though these numbers are only indicative, it becomes clear that changing the economy requires to remove the influence money has over politics and policymaking.

Acceptability also depends on policy design. If lowering the taxes of wealthy households may pass unnoticed, it will be made even more unpopular if running in parallel to a regressive tax on car fuel. It is the explosive cocktail of these two policies together that triggered the *Yellow Vest Movement* in November 2018. Should the carbon tax had been progressive instead, perhaps it would have not been opposed as vehemently as it was.

Certain policies look less revolutionary than they really are. I call them *Trojan policies* because they can act as Trojan horses in a spirit of revolutionary reforms in disguise. Let me illustrate with four example. The job guarantee gathers broad acceptance because of the existing

[1] Sources: Ministère de la Transition écologique et solidaire (2019).
[2] Sources: burnout (Mutualité Française, 2018); stress at work (Stimulus, 2017); bullshit job (Graeber, 2018: 26).
[3] Sources: 2.8 million unemployed and 1.5 million in the "unemployment halo" in 2017 (Insee, 2018e); 27.2% of active population (8 million) for the time-equivalent non-employment rate calculated by *Alternatives Économiques* (Duval, 2017); €42-50 billion per year of unemployment costs (Abrossimov and Prost, 2017).
[4] Sources: 200,000 businesses in the Social and Solidarity Economy (Bercy Infos, 2016); 54,000 users of sol-type convertible local currencies (Sol, 2017).

work ethic and concerns for bringing back job-seekers into "employment," even though its purpose is to emancipate from the logic of wage-labour and decommoditise the organisation of work.[1] Local currencies are depicted as "social innovation" to "stimulate" the local economy even though they participate in the re-politisation of the economy. A tax on financial transaction will be supported by those worried about price volatility and "economic crises" whereas it is used here to de-financialise the economy and discourage transactions in general-purpose money. A universal basic income can be supported for raising the "purchasing power" of low-income households even though it aims precisely at the decommoditisation of needs.

Certain changes have broad popularity because they concern many people (e.g. everybody who work will have an interest in working time reduction, granted it does not leave for worse off), whereas other changes concern few people (e.g. a sovereign banking reform mostly concerns commercial banks and the government; social enterprises and self-management mostly concern businesses).

Whereas some policies are social struggle in the making, others could be welcome by a diversity of actors with wide interests (e.g. autonomy allowance, alternative currencies, job guarantee, and work time reduction). There is still value in proposing unpopular policies because it triggers heated discussions. A universal basic income or a ceiling on wealth forces us to reflect on notions of justice. If degrowth aims to *decolonise the imaginary*, it should push for conflictual policies. If everybody agrees to a degrowth agenda, it means it has been co-opted and no longer reflects revolutionary aspirations (the utopian character of degrowth).

Another hypothetical problem is that one controversial policy can block an entire agenda. Imagine the enacting of policy like an hourglass with policies being represented by the grains of sand. Some are smaller than other (the difference I have made between *core* and *peripheral* policies) and some are more controversial than others (the difference I have made between *hot* and *cold* policies). Suffice that one policy gets stuck in deliberation to block the entire agenda (e.g. what is currently happening in some circles with universal basic income).

The popularity of certain policies evolves over time. For example, Benoit Hamon, the candidate of the *Parti Socialiste* at the 2017 presidential election, included a universal basic income in its campaign, then creating a lot of discussion around the policy. This would have been a timely moment for basic income proposals. Same fertile circumstances when the COP was organised in Paris, which could have been an opportunity to propose an emission cap scheme at the national level to be served as an example for other countries in the world. The aftermath of the Global Financial Crisis would have been prime time for tighter restrictions on financial regulations and a sovereign money reform. A job guarantee has more grip in times of high and rising unemployment.

A proposed policy that does not materialise is the most obvious kind of policy failure; the first test in the lifetime of a policy is be supported by decision makers. One aspect that is crucial is policy formulation, that is how the intervention is communicated. The government is likely to oppose "alternative currency" which threatens the monopoly of the euro but less so "complementary" or "parallel currency." A "job guarantee" might seem more appealing to

[1] One may add that a crucial feature of the current TZCLD that makes it tolerable from the perspective of the government is that it is restricted to activities that do not compete with the private sector, ensuring that it remains a *complementary* system to the traditional labour market. If that single design feature had been removed (like I argue it should be in a degrowth society), one may wonder whether the proposal would have been accepted.

those focusing on fighting unemployment than a "community activity scheme." "Job sharing" might gain more currency than "work time reduction" in a government with a strong work ethic.

The TZCLD is the perfect example of how a subversive, anti-capitalist project can be "disguised" to appeal to a larger public and seduce decision makers. Comparing the text written in the application for a State-funded experiment and the popular book where they describe the project two years after (Hédon et al., 2019), the change of tone is striking. While the former focuses on fighting poverty and exclusion, reducing unemployment, and improving purchasing power (which it does), the latter adds on a diversity of more revolutionary aspirations such as a defence of democracy at work and communal planning.

Stakeholders and scale of implementation

Who is to do what, where, and when? Let us now discuss who should take part in the decision-process concerning each policy (the level at which the policy is set: e.g. national, sector, firm, local) and which actors are involved in its implementation (e.g. national government, municipality, consumers, workers, firms, and households).

1	Set at the **national** level → *National government* legislates and collects, *income-earner* and *household* pay (MI-MW); *National* and *municipality* grant, *citizen* receive (AA)
2	Set at the **firm** level → *Firms* (*employers* and *workers*), and other actors in the case of multi-stakeholder governance
3	Set at the **national** level → *Public agency* auctions the permits, *firms*, *municipality*, and the *national government* buy permits, *households* receive them for free
4	Set at the **national**, **sectoral**, and **firm** levels → *National government* sets the maximum legal workweek, *sectors* and *firms* agree on hours thresholds, *workers* decide how much to work
5	Set at the **firm** level → *Firms* (*employers* and *workers*)
6	Set at **local** level → *National government* finances, *local association* organises, *job-seekers*, *local businesses*, and *municipality* participate
7	Set at **local** level → *National government* legislates, *municipality* supports, *consumers* use, *local businesses* accept, *banks* facilitate
8	Set at **national** level → *Monetary authority* sets the money supply, *national government* and *municipality* issue and delete, *community banks* loan, *households* and *businesses* borrow
9	Set at **national** level → *National government* legislates and collects, *financial firms* pay.

Policies do not happen on their own and there is always a diversity of actors involved. Not quite as simple as the top-down (State) vs. bottom-up (grassroots) dichotomy; there are a few stakeholders in between. For example, a community job guarantee is funded by the State but

designed and managed by the local community. A ceiling on working hours is set nationally but the form that reduction takes is discussed within sectors, at the firm level, and by each individual. A sovereign money reforms involves a central monetary authority who sets the level of the money supply, the national government who spends part of it into existence, and a network of decentralised community banks who decide how money should be loaned into existence based on their local circumstances.

Some changes involve less stakeholders than others. For example, the tax on financial transactions is legislated by the national government and targets only one type of actors: financial firms. For self-management, it is even narrower with only firms (employers and workers) being concerned (except in case of multi-stakeholder governance).

A policy agenda should, in its totality, include all types of stakeholders. Missing actors is the evidence of a faulty design and runs the risk of not gathering enough support or/and not mobilising enough actors for a society-wide, democratic discussion. An agenda where the only policy agent is the national government runs the risk of lacking democratic agreement; one where the only agent are firms runs the risk of being co-opted by the interest of businesses only; and one where all changes are at the grassroots level might lack the interaction at a broader scale that would secure the long-term resilience of local initiatives.

It would be more precise to decompose each stakeholder into more precise categories. The reaction of a large transnational corporation to a change in business status will differ from the one of a small, local cooperative, even though I called both of them "firms." A not-for-profit, local bank might support a tax on financial transactions while a large investment bank may oppose it. The "consumers" using green currencies are often the ones with already high levels of environmental awareness.

Risk

What could go wrong? For each policy, I indicate several risks. Underlying this question is a more fundamental one: What should be considered a policy success, and its opposite, a policy failure? To begin, it is important to remember that what is to be considered "success" is always set from the perspective of the decision maker themselves and in relation to their goals and objectives. For example, a certain change of rules may decrease labour productivity, which, if the objective to maximise production, is going to be a problem. But if the objective is itself to slow down productivity, then this is simply the expected outcome of what can then be called a *successful* policy. The risks here represent situations where the policy backfires on its objective.

1	Risk 1.1: capital flight Risk 1.2: basic income rebounds into more environmental pressures Risk 1.3: gratuity strains public services
2	Risk 2.1: capital flight Risk 2.2: split up businesses are bought by foreign firms
3	Risk 3.1: over-emission of permits Risk 3.2: price hike, price volatility Risk 3.3: speculation, financialisation of TEQs
4	Risk 4.1: drop of revenues from income taxation Risk 4.2: not enough work for key activity, e.g. agriculture

	Risk 4.3: rebound into more leisure consumption
5	Risk 5.1: petty capitalist behaviour Risk 5.2: drop in productivity and increase in work hours
6	Risk 6.1: reinforces the work ethic Risk 6.2: stigmatisation of community workers
7	Risk 7.1: hypermonetisation; normalise economic rationality Risk 7.2: green washing and fair washing
8	Risk 8.1: over-emission of money Risk 8.2: capital flight
9	Risk 9.1: transactions move elsewhere Risk 9.2: motivating further lobbying against financial regulation

Certain risks can be mitigated by coupling policies together: for example, autonomy allowance given in special-purpose currency to avoid rebound effect, self-managed companies being SCICs to avoid a petty capitalist scenario, or job guarantee offering light schedules to not reinforce the work ethic.

The goal of this exercise should be to identify the low-hanging fruits that bear little risks and the high-hanging fruits with threatening risks and high uncertainty. For instance, an incremental work time reduction is relatively fail-safe compared to a sovereign money reform that would demand an exit from the Euro.

It is also important to identify which changes are easily reversible. Because of its commitment to autonomy, changes for degrowth should not close down the horizon of the possible, locking up people in a no-choice zone. Working hours can be increased, an income ceiling can be removed, and, after all, even a reform as structurally complex as sovereign money can be undone. Unlike geo-engineering and ecosystems where irreversible thresholds of damage can be crossed, policymaking should always leave room to experiment.

And of course, the notion of risk should be contextualised to the present situation. Even though certain changes do bear risks that cannot be ignored, these are not nearly as threatening as the system in place. Yes, local currencies can commoditise the social, but even without them (or should I say especially without them), this is a trend already underway. Yes, community jobs may be stigmatised, but better this stigma than the one job-seekers face today. Yes, the monetary authority may over-estimate the supply of liquidity, but this will not be as bad as the current system where money keeps being created with no bounds whatsoever.

And most importantly, let us remember that risks are borne by different actors. The personal, half-backed thoughts I gave as examples in the table below completely ignore this crucial aspect. In a real policymaking setting, the power analysis (who win and who lose) must pervade throughout all of these decisions.

Policy interactions

In order to craft solid policy programmes, one must be aware of the potential interactions between different policies. The main risk of proposing policy mixes is to lose *policy coherence*. A selection of policies is coherent if there are no conflicts between them, or even better, if they

complement each other. The task consists in identifying the key impacts of each policy. To do so, I proceed in three steps.

First, I draw a Causal Loop Diagram (CLD) for each policy bundle, including the main variables that are expected to be affected. Do not expect new insights at this point because those are only graphical summaries of the points I have made in Chapter 9, 10, and 11. For example, work time reduction leads to a reduction in production, which then lowers environmental pressures (this is what I have showed in Chapter 10 and now I only display this claim graphically). These impacts sometimes come back to affect the policy itself, e.g. work time reduction liberates time for commoning which improves access to gratuitous goods and services, which reduces the pressure to work, and therefore leads to a further reduction of working time. It is precisely these *feedback loops* that I will be looking for in this section.

Second, I merge these CLDs into three theme-based CLD by focusing on the impacted variables they have in common (so 1-2-3 merge into one CLD for property, 4-5-6 into one CLD for work, and 7-8-9 into one CLD for money). My objective is again to identify a number of feedback loops. I am paying attention mostly to *positive* or *reinforcing* feedback loops because they depict positive interactions between the policies, meaning the ones that support each other. These would constitute the internal engine (endogenous momentum) of a degrowth transition. At this point, the CLDs are not summaries of arguments made in previous chapters but start to offer new insights.

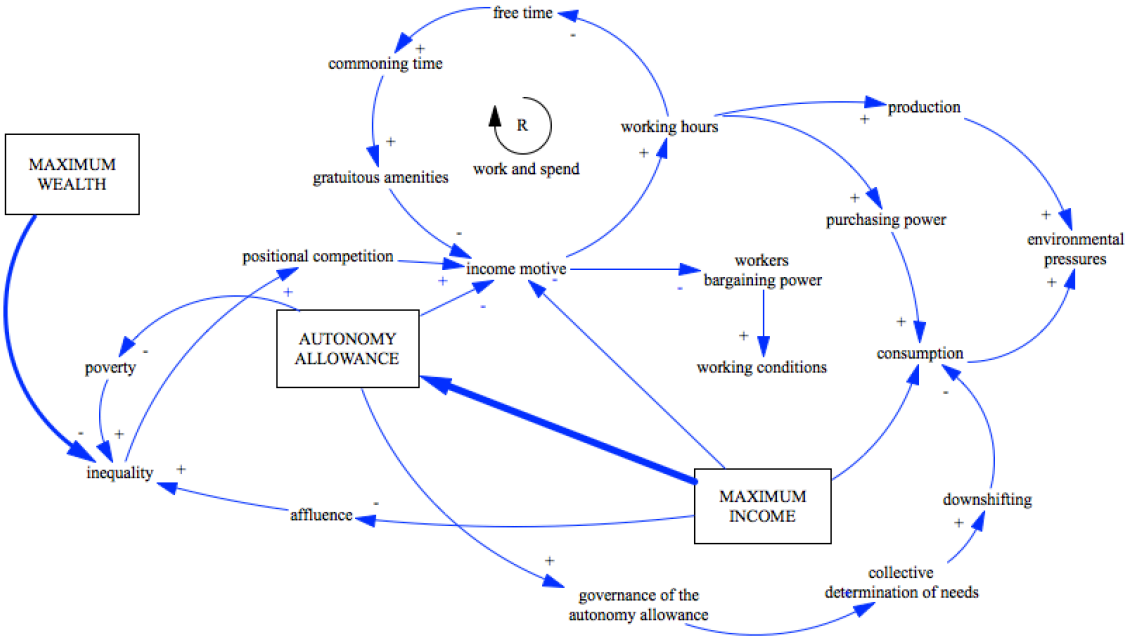
At last, I repeat the process and merge these three theme-based CLDs into one synthetic diagram only including the interactions between policies across different themes. Again, I try to identify reinforcing feedback loops.

Step 1: Policy instrument CLD

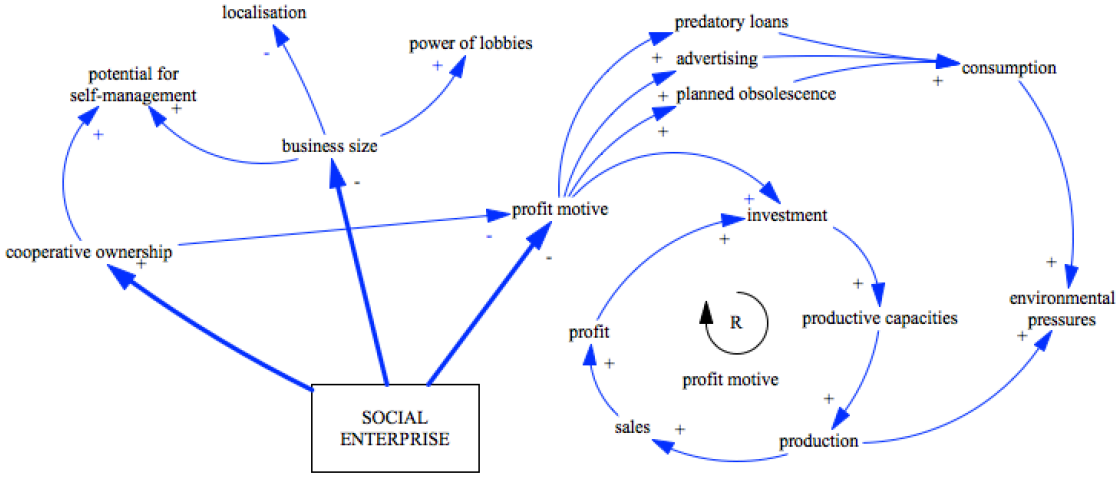
What will be the effects of a maximum income and a maximum wealth? What will be the effects of an autonomy allowance? And what will be the effects of these three policies together? The first step to study policy interactions is to draw one Causal Loop Diagram (CLD) per policy bundle (so nine of them in total).[1]

[1] As a reminder: (1) sharing possessions, (2) democratic ownership of business, (3) stewardship of nature, (4) work time reduction, (5) decent work, (6) postwork, (7) monetary diversity, (8) sovereign banking, and (9) slow finance.

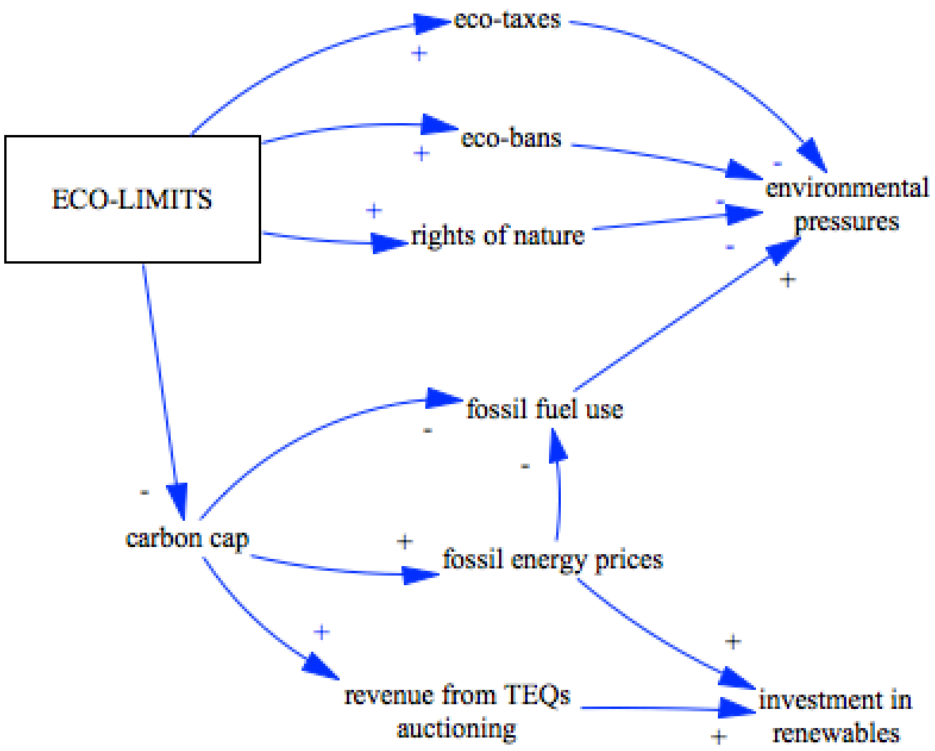
N°1: Sharing wealth



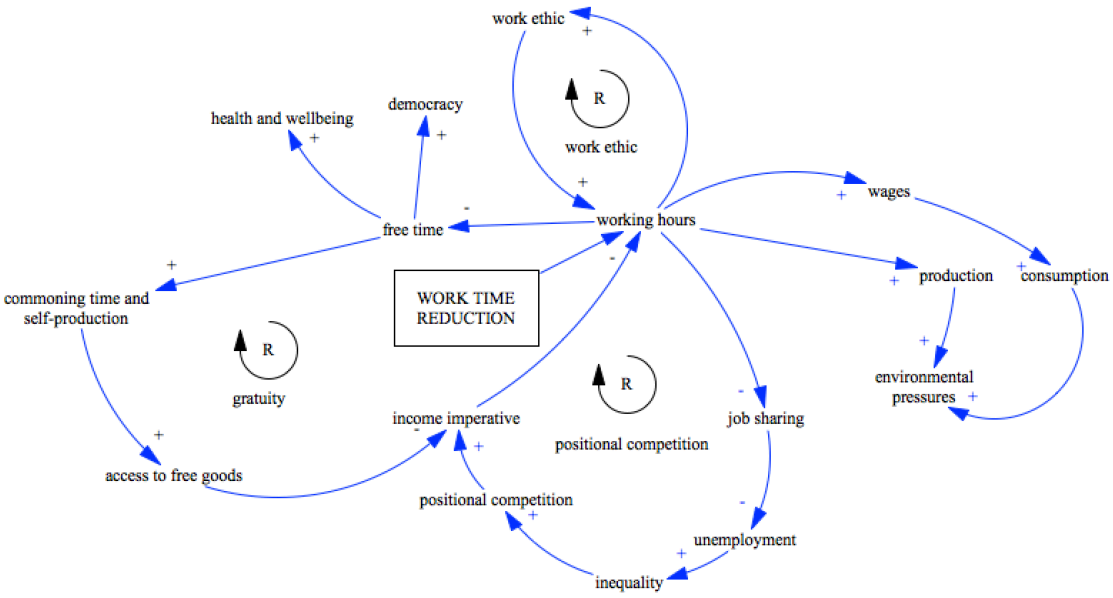
N°2: Democratic ownership of business



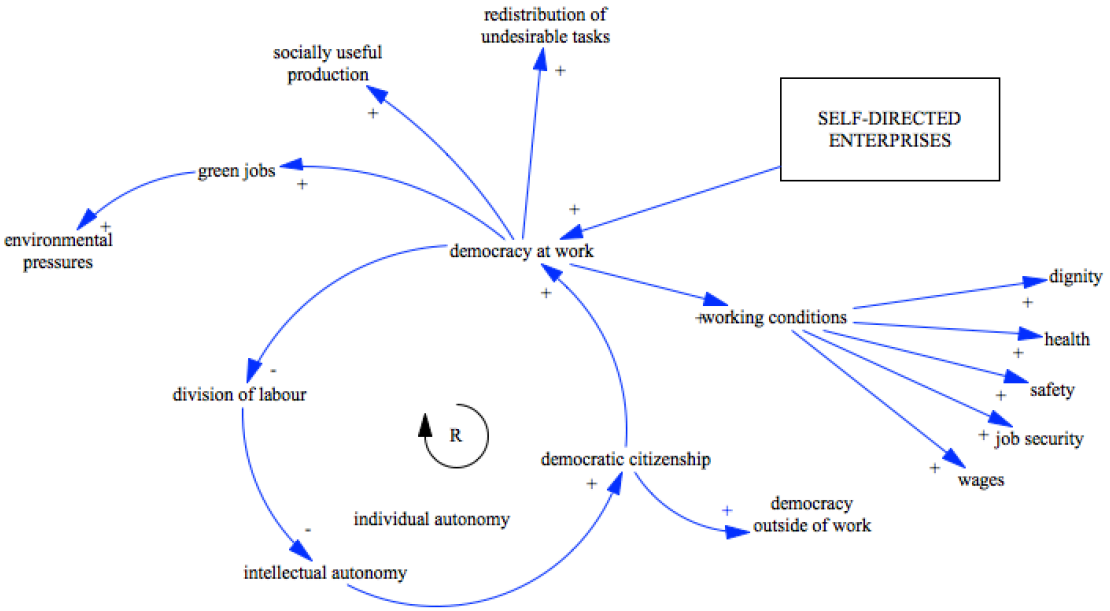
N°3: Stewardship of nature



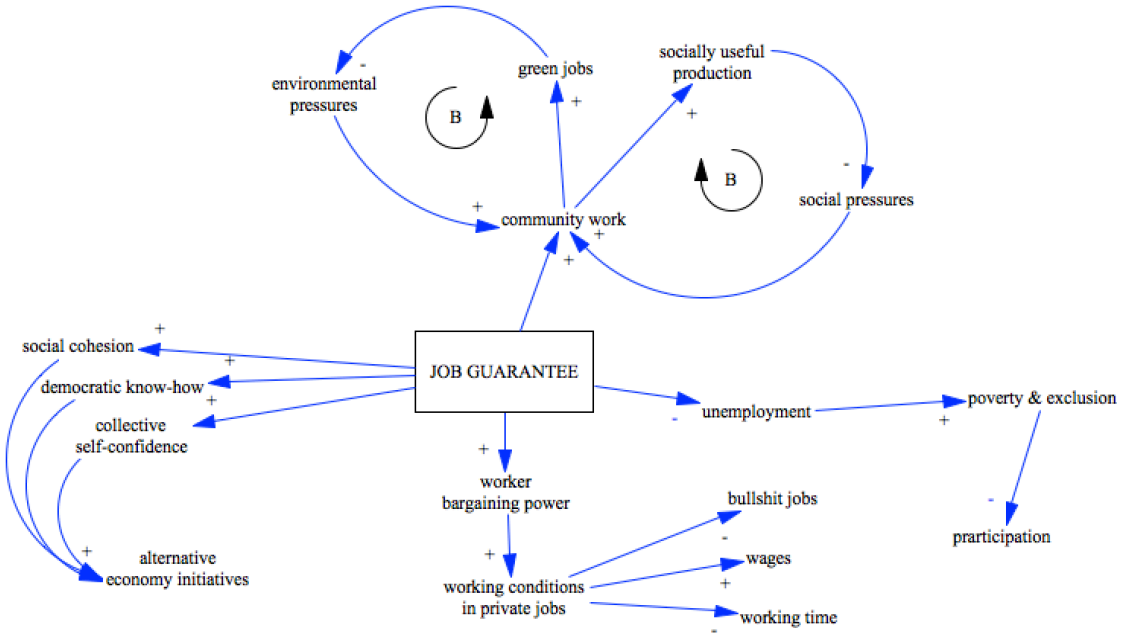
N°4: Work time reduction



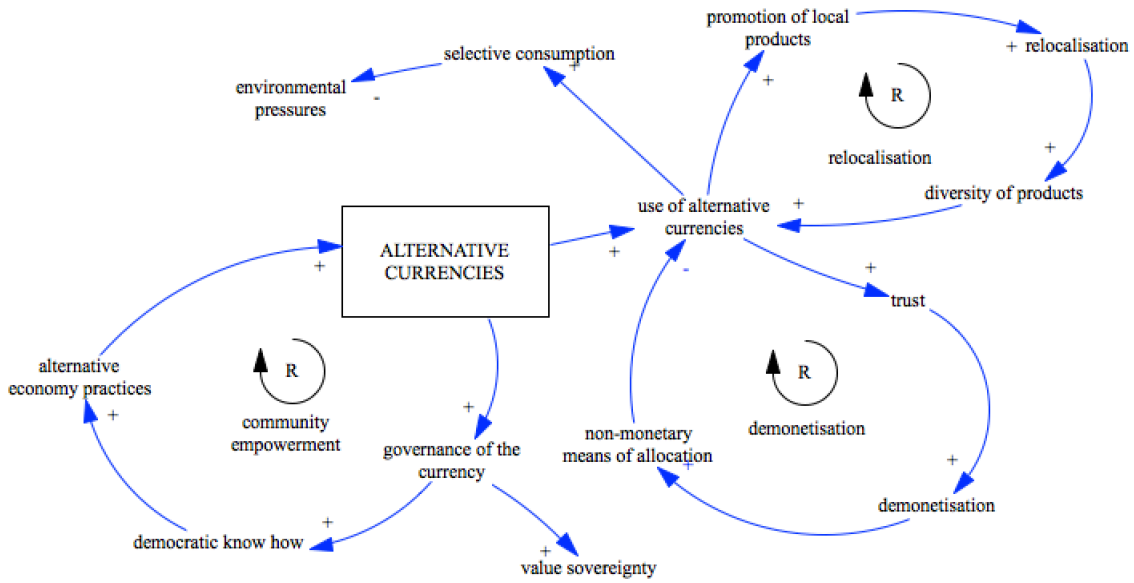
N°5: Decent work



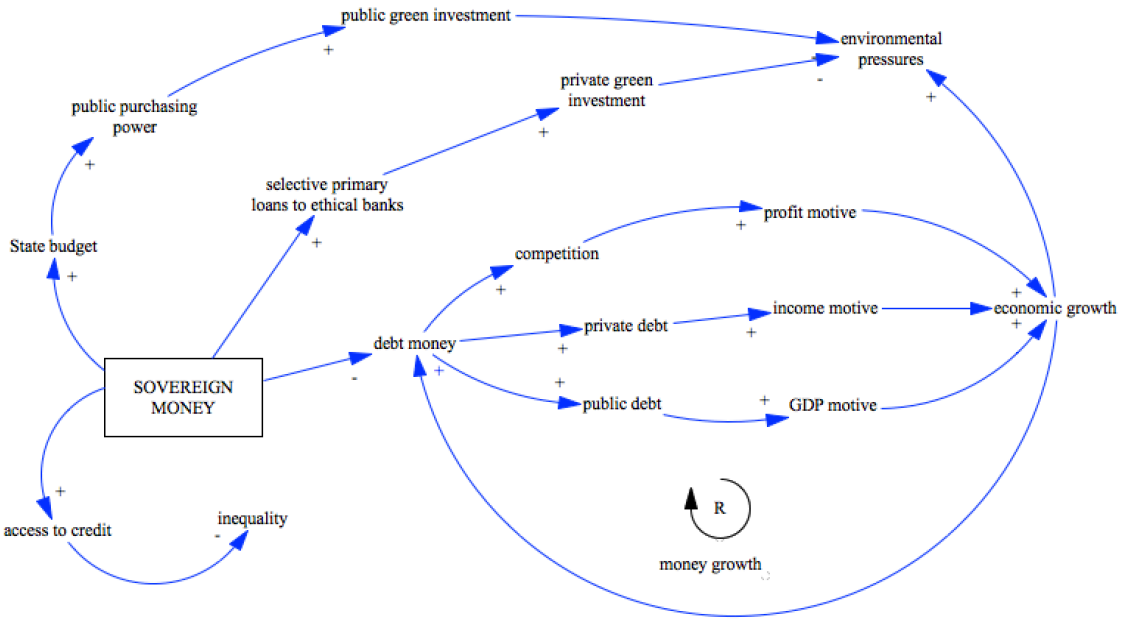
N°6: Postwork



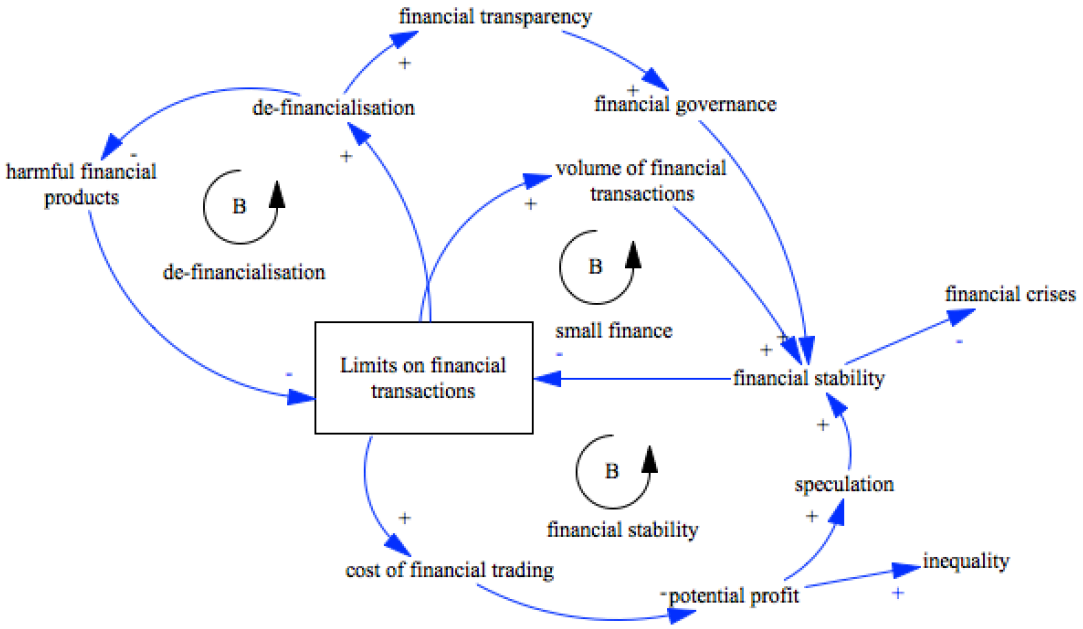
N°7: Monetary diversity



N°8: Sovereign money



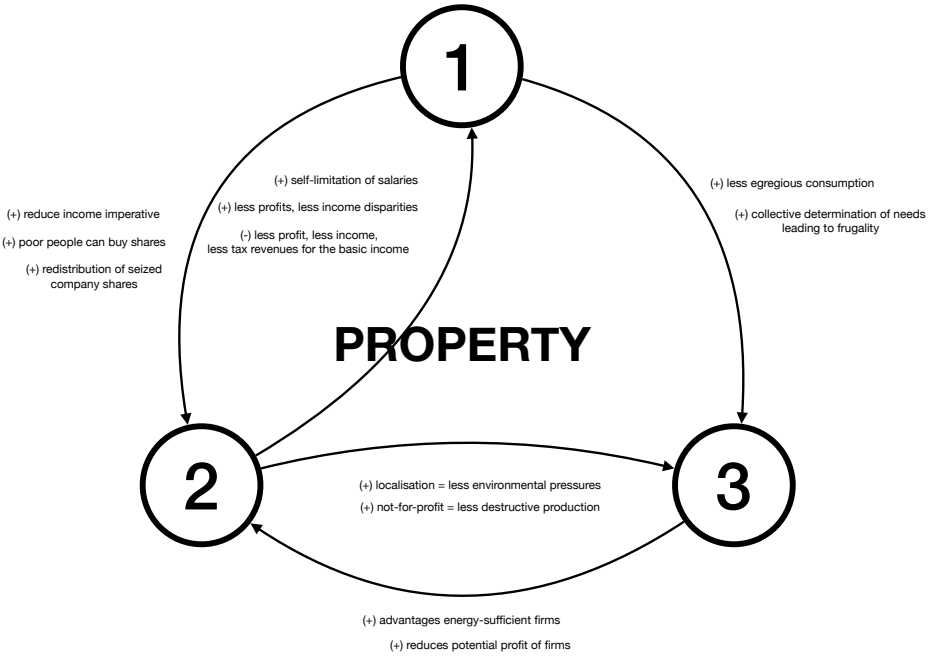
N°9: Limits on financial transactions



Step 2: Theme CLD

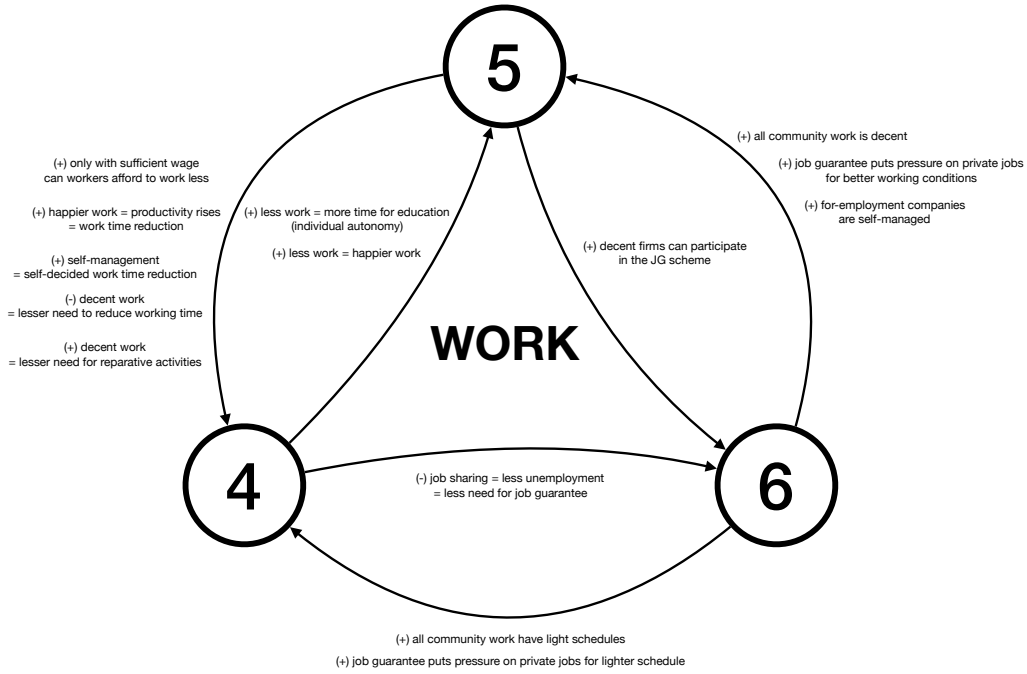
Now, we have nine CLDs, each detailing the effects of the policies I have bundled together. The second step consists in merging these diagrams; I do while focusing on the effects that one of the policy bundle (one of the nine) has on the two others within its theme. In the end, this should give us three CLDs: one for *property*, one for *work*, and one for *money*.

Policy interactions within the property theme



Comments on the property diagram: The safety net of an autonomy allowance reduces the imperative to work in order to earn a living and the redistribution of wealth, especially via the wealth tax. The wealth tax also redistributes shares of companies. Both redistributive policies and the autonomy allowance impact environmental pressures by reducing the purchasing power of high-emitters and creating a collective setting of fundamental needs in the promotion of a frugal lifestyle. The profit motive is inexistent within social enterprises, which reduces the incentives of eager incomes (and eventually inequality) while avoiding runaway production and the environmental pressures that come with it. In the way I defined them, enterprises are also small and local.

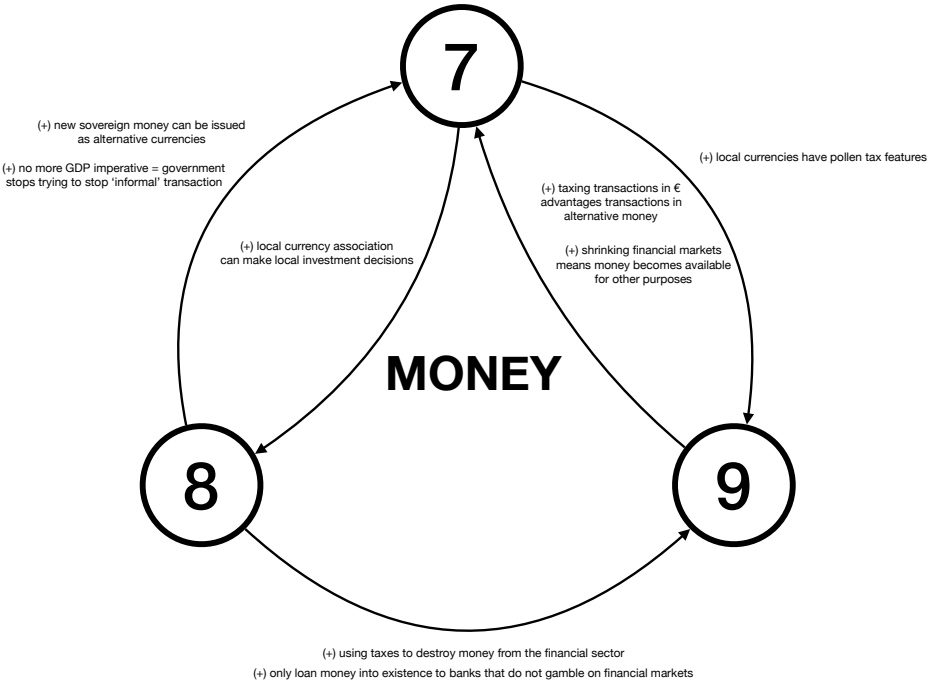
Policy interactions within the work theme



Comments on the work diagram: A community job guarantee scheme reinforces the goal of decent work because all community work has a social and/or ecological benefit and because it only welcomes businesses whose work is considered decent. It also indirectly puts pressure on private jobs in terms of working conditions; if conditions like wages, hours, or autonomy are not matching the ones of guaranteed community jobs, then private businesses will lose their workers. This is particularly important when it comes to working time: only if schedules of community jobs are lighter than the one of private jobs will the job guarantee have an impact on average working time. The for-employment firm organising community work is itself self-managed. Postwork or decent work are highly reliant on work time reduction. And the reverse is also true: there can be a job guarantee with no work time reduction, but not the reverse. There cannot be selective job destruction without a job guarantee in place to absorb unemployed workers. Work time reduction can scale down problems (for example of ecological degradation) but it cannot solve them. Decent work can reduce the social and environmental impacts of work

but it cannot fundamentally liberate time, and this is why work time reduction is an additional goal to rendering work decent.

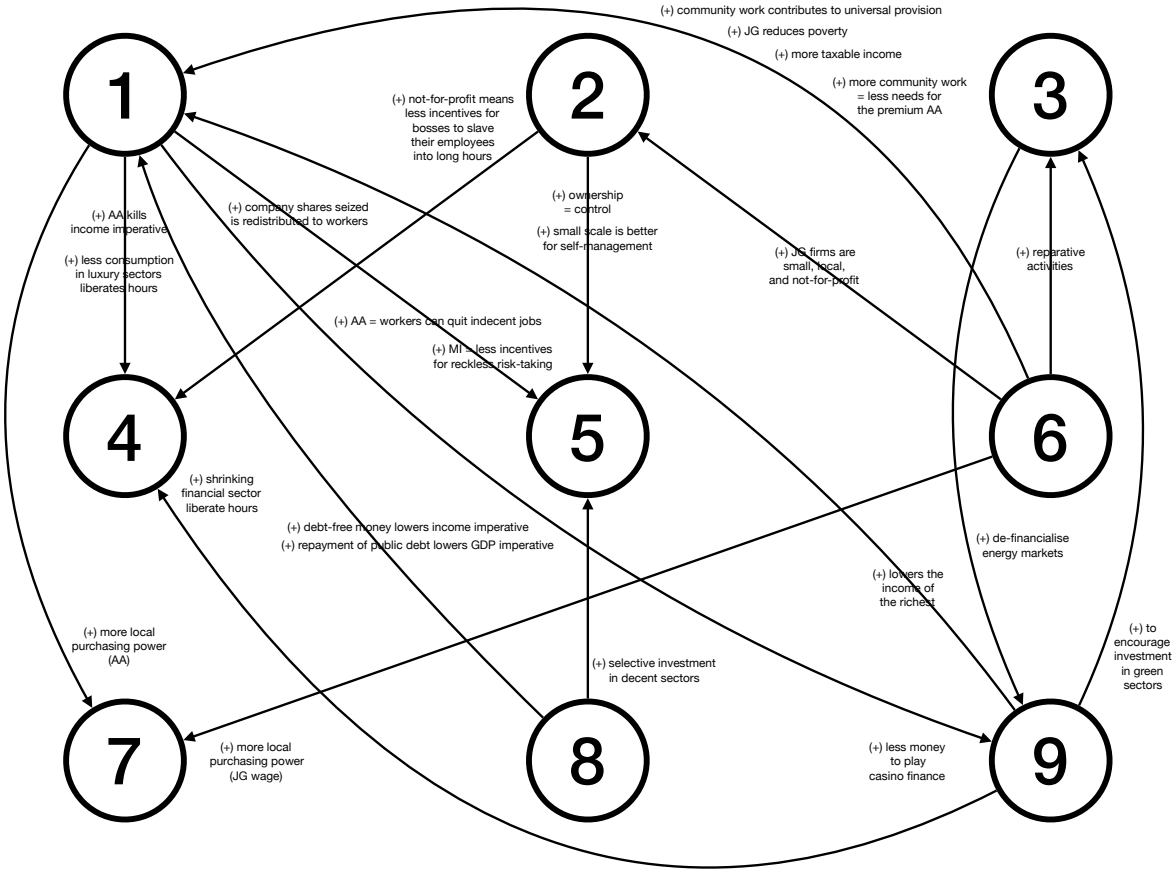
Policy interactions within the money theme



Comments on the money diagram: With a sovereign money system in place, the government will be able to finance its budget debt-free instead of borrowing on financial markets, thus reducing the GDP imperative. Controlling the primary issuance of money, public authorities can set strident criteria of transparency and democratic governance as well as social and ecological concerns for banks to be eligible for loans. Once local currency associations are in place, they can be used to make local democratic investment decisions. Imposing a tax on financial transactions in official money will give a competitive advantage to alternative currencies which remain untaxed while the shrinking of financial markets (e.g. via divestment) will liberate funds to be invested in ethical projects.

Step 3: CLD of a degrowth transition

In the previous step, I only considered interactions within the boundaries of each theme. Now, I look at interactions between policy instruments *across* themes (between n°1 in property and n°6 in work; between n°7 in money and n°3 in property, and so on).

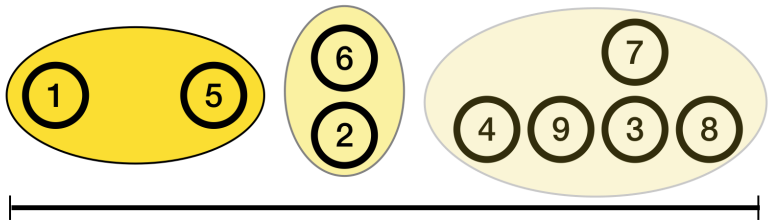


Let us now consider the two last steps together and determine which policies are most determinant and which are most determined in the overall agenda. In order to do this, I count the number of *incoming* impacts into a policy instruments (how many times one policy is *impacted* by another policy), which I compare to the number of *outcoming* impacts (how many time a policy *impacts* another policy). For example, work time reduction impacting self-management is counted as an outcoming impact for n°4 and an incoming impact for n°5.

	incoming impacts	outcoming impacts	total
1	9	12	21
2	6	7	13
3	6	3	9
4	8	3	11
5	10	5	15
6	1	12	13
7	7	2	9
8	1	7	8
9	5	5	10

Based on this count, I distinguish between three policy kinds: policy *givers* determine more than they are determined (in red in the table), policy *receivers* do the opposite (in green), and *neutral* policies have a roughly equal impact in and out (in blue). Represented in the figure

below, one can see that it is only a minority of the policies that are hyper-connected. (most connected towards the left side; least connected towards the right side).



Having such a transversal look at the policy agenda yields several precious insights. For instance, it appears that the autonomy allowance is crucial. To take risks, people need a safety net, the insurance that if what they fail, they will not be left moneyless and unable to satisfy their needs. With an autonomy allowance in place, people are empowered to try new things: e.g. for a for-profit company to turn itself into a less profitable SCIC, for private workers to transition to community work, or for employees to reduce their working time.

WTR is another apex policy in the pack. Because WTR liberates time, it is a pre-condition for all the other bottom-up initiatives that require volunteer work to run (e.g. a local currency association, the multi-stakeholder governance of a SCIC, and participatory budgeting). The system of provision of a degrowth society is time-intensive (especially because of its direct democratic structure), and so the extraction of hours that are currently "stuck" in paid employment is the main fuel of a degrowth transition. (It also means that the pace of change is limited by the number of hours we can dedicate to planning; taking into account that these activities should remain minimal in comparison to time spent for the playful enjoyment of life).

A crucial aspect has to do with what I have called *democratic capabilities*. This is the ability of a community to self-organise its economy, to take control of its systems of provision. Creating a local currency (n°7) or setting up a local employment committee (n°6) can be ways of gathering self-confidence and democratic know-how, which can then be applied to more initiatives (e.g. participatory budgeting or the socialisation of certain utilities like public transport, water, and energy). It is also a way of strengthening care at the local level, raising sympathy and trust, and legitimating a further sharing of wealth and democratisation of businesses.

The sovereign money policy is crucial on several grounds. It is how the autonomy allowance is injected in the economy. The one-time transition to sovereign money can be used to repay part of the public debt and interest-free money can then be issued without a growth imperative, then removing two important drivers of growth (growthmanship and productivism). The newly obtained ability to lend money to commercial banks with selective criteria could allow a Green New Deal without growth.

There is a hierarchy in the policies with the ones acting *upstream* the economic sequence (e.g. extraction and production) being more strategic than the one acting *downstream* (e.g. consumption and excretion) – even though the interactions are often more complex than that. For example, a selective work time reduction to phase out brown production renders a selection of green products via a special-purpose currency unnecessary. In reality, it is safer to assume these policies will unfold in parallel until they meet at mid-point.

The main insight from this admittedly simplistic analysis is that certain policies are more structural than others. Should the autonomy allowance (n°1) be removed from the policy mix, and a number of synergic impacts would fail to materialise. Using this method, one should be able to find the uncompromising building blocks of a degrowth transition, i.e. the policies one cannot do without.

Policy couplings

We have *decomposed* policy bundles, *compared* them on a number of grounds, and looked at their *interactions*, and it is now time to translate these insights into the actual design of policy instruments. This final step is the most important step because it is the one that bears consequences in reality through the shaping of the policies.

The objective is to study inter-dependencies between the instruments. The underlying goal is to improve policy design by finding ways in which policy instruments could support, enable, and reinforce each other during a degrowth transition. For example, the generalisation of alternative currencies can be supported by part of the autonomy allowance or the community work wages being denominated in local money – this is what I call a *coupling*.

To find the couplings, I draw a cross-impact matrix (see figure below) and enquire whether each policy is coupled to another, and this building on the previous links I have drawn between the policies. I then represent the results of that exercise in a diagram where each policy is shown attached to the others it shares coupling features with.[1]

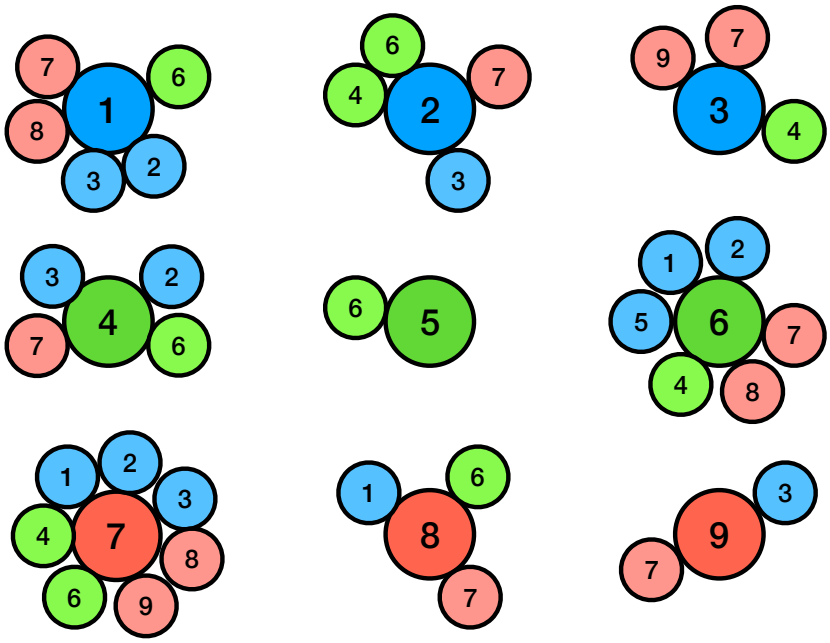
Figure X: implementation interactions (1: coupling, 0: no coupling)[2]

	1	2	3	4	5	6	7	8	9
1									
2	1								
3	1	1							
4	0	1	1						
5	0	0	0	0					
6	1	1	0	1	1				
7	1	1	1	1	0	1			
8	1	0	0	0	0	1	1		
9	0	0	1	0	0	0	1	0	

Here are the results of the cross-impact matrix exercise. Each policy is depicted as attached to a number of others with whom it is institutionally linked via some design features (the three colours represent the three themes of property, work, and money).

[1] As a reminder: (1) sharing possessions, (2) democratic ownership of business, (3) stewardship of nature, (4) work time reduction, (5) decent work, (6) postwork, (7) monetary diversity, (8) sovereign banking, and (9) slow finance.

[2] This exercise could be done with more precision, for example by broadening the spectrum of possible interactions between policies (-3, -2, -1, 0, +1, +2, +3).



Here are the findings of this exercise. I have identified **19 design couplings** in the policy agenda and I will now describe what each entails. (These are just examples; I am sure many other couplings can be found in the policy agenda.)

1-2 The company shares seized by the *maximum wealth* tax can be redistributed to workers thus turning shareholder businesses into *cooperatives*.

1-3 The *emission permits* are distributed via the *autonomy allowance*.

1-7 Part of the *autonomy allowance* is denominated in *alternative currencies*.

2-3 *Social enterprises* have rebates at the *emission permit* weekly auctions.

3-4 The revenues of *permit* auctions finance green *work time reduction*.

3-7 The *emission permits* can back up a *complementary currency*; and the revenues of *permit auctions* finance *green currencies*.

4-2 *Work time reduction* is financed by the *profit tax*.

4-6 *Community jobs* have lower than average *working time*.

4-7 *Hours* cut from the schedule remain paid in *alternative currencies*.

6-1 *Community work* provides the gratuitous services of the *autonomy allowance*.

6-2 *Community work* is exempted from *taxes*; *community work* identifies missions of social benefits for *social enterprises*; *for-employment firms* are *social enterprises*; and only *social enterprises* can participate in the *community work* scheme.

6-5 *For-employment firms* are *self-managed*; and there is *job rotation* within the *community work* scheme.

6-7 Part of the *community jobs'* wage is denominated in *local currency*; the *currency association* and the *for-employment committee* can be the same body.

7-2 Only *social enterprises* can be part of the *local currency* network; the organisations running *alternative currencies* take the form of *social enterprises*.

7-8 Convertible *local currencies* are funded by State-issued *sovereign money*.

7-9 The *tax on financial transactions* does not apply to *alternative currencies*.

8-1 The *autonomy allowance* is a channel of *sovereign money* issuance.

8-6 Paying wages for *community jobs* is a channel of *sovereign money* issuance.

9-3 All *financial products* relating to *emission permits* are prohibited; the price of *permits* is controlled and their trading highly *regulated*.

Conclusions for Chapter 12

IN this chapter, I studied the interactions between nine policy instruments. After analysing each policy individually and all of them together, I have identified nineteen coupling that interlink the nine policies in one single strategy. The main insight is that even though certain policies are more important than others, each has a role to play in a degrowth transition. But nine instruments is not many and one mind is not enough. While I have tried to simplify and synthesise for the sake of parsimony, it has been at the expense of precision. The same method should be applied to more specific policy themes and with a broader set of stakeholders.

Conclusions

A realistic demand for the impossible

AFTER acknowledging the dead-end of the growth economy in Part I and imagining an alternative to it in Part II, I spent the last part of this dissertation constructing a bridge between the two. Now is time to reflect on the findings of this exercise.

The main finding of Chapter 8 is that degrowth has not done its policy homework. I started by making an inventory of all the policies I could find that had been associated with degrowth, gathering a total of 232 policy proposals or 60 goals, 32 objectives, and 140 instruments. In parallel, I did the same with a selection of entries submitted during the French *Grand Débat National*, this time counting 420 demands – 86 goals, 103 objectives, and 231 policy instruments. While these menus look impressive in quantity, they are unsatisfactory in quality. Poorly structured, they fail to distinguish between the ends and the means of policymaking; they emphasise a few symbolic policies while ignoring the diversity of smaller policies that would enable them; their elements remain unarticulated; they are static and lack levels of implementation; and they are detached from particular social-historical contexts. Most problematically, the degrowth policy proposals I have reviewed are vague. Taken altogether, degrowth might be a great idea but it is one without a solid plan.

In Chapter 9, 10, and 11, I have attempted to remedy the shortcomings of the existing degrowth agendas and devise such a plan. I did so by putting together policy goals, objectives, and instruments regarding the transformation of property, work, and money. Although all-encompassing in theory (I consider these institutions total social facts), I narrowed them down to a number of specific issues that I thought were most strategic and unexplored. Of course, my programme does not cover everything and many policy maps remain to be drawn, perhaps at the level of more specific themes like agriculture, housing, trade, and countless others. If anything, what I put forward is a method to elaborate such maps, as well as, hopefully, the proof that drawing such maps is worth doing in the first place.

In Chapter 9, I argued that not all keys should be kept in private pockets. In essence, this chapter drew a new landscape of ownership rules to replace the current hegemony of private property. The agenda is split into three goals. The first has to do with *redistribution* and consists in **(1) sharing wealth** that already exists, which could be achieved by placing limits on both income and wealth. The second has to do with *distribution*: it is the **(2) democratic ownership of business** which operationally translates into the promotion of small, not-for-profit,

cooperatives. And the third objective has to do with *pre-distribution*, in the sense of organising the (**3) stewardship of nature**; in terms of policy instrument, I associated this goal with a number of eco-limits revolving around a central emissions cap scheme.

Chapter 10 challenged the power of the clock and argued that degrowth means challenging the quantity, quality, and narrative of work. The strategy is structured around the three goals of **(4) work time reduction**, **(5) decent work**, and **(6) postwork**. One should work less for a diversity of ecological and social reasons. One should strive for decent work, both in its content (what is being produced and why) and in its form (how is it being produced and by whom). And, most importantly, one should challenge the centrality of market-coordinated, commodity-producing, paid employment in social life and construct a less work-centred society. As for policy instruments, the quantity of work issue was dealt with work time reduction, the quality of work issue with self-management, and the issue of narratives around work with a community job guarantee.

The last of this trio of policy chapters was about money. From a degrowth perspective, money, banking, and finance should be reclaimed as political institutions and practices. Following this threefold division, I identified three goals. **(7) Monetary diversity** challenges the hegemony of general-purpose bankmoney to make way for a plurality of alternative currencies. **(8) Sovereign banking** reclaims money as a public utility. Instead of entrusting commercial banks with the power of moneying, the creation and destruction of money should be organised democratically following social and ecological criteria. And **(9) slow finance** is about bringing back a sense of proportion between the financial sphere and the real economy as well as changing the cultural logic framing investments. To achieve such goals, I suggested to generalise the use of alternative currencies, transition to a sovereign money system, and introduce legal limits on financial transactions.

In sum, to operationalise degrowth means transforming 3 institutions to achieve 9 goals and 32 objectives. In order to do so, I have presented a number of decisions regarding policy instrument in each of the goals. The 9 policy bundles I suggested include a diversity of policy instruments, some of them more important than others. This is one list and I am sure many others are possible. Me devising such a list is only a show-don't-tell way to argue that more precise policymaking list are duly needed and that this is one way to make them – but surely not the only one.

Eggs, mustard, and oil is not mayonnaise. If the first four chapters of this part were about selecting ingredients, its final chapter was about finding out how to mix them together to form a coherent transition strategy. What I offered is a method consisting of four steps: (1) decompose each bundle of policy instruments into a hierarchy of specific changes; (2) compare each policy in terms of timing, compatibility with the existing legal and cultural infrastructure, popularity, stakeholders and scale of implementation, as well as risks; (3) study how the expected impacts of one policy interact with the others with the help of Causal Loop Diagrams; and (4) design couplings between each instruments to improve the effectiveness of the strategy as a whole.

I then applied this method to the previously described policy agenda. The exercise yielded a number of insights. The main one is that operationalising degrowth is not as fanciful as its detractors would think. In fact, I came back from this journey with one powerful sentiment: degrowth is within reach. All the policies required to get a degrowth transition

started are available today. There is little to lose and a lot to win, and the only thing still lacking is our own collective self-confidence in our ability to build an alternative, more desirable future.

This is one story and others are possible, at least as many as there are different territories, each with its unique circumstances. I hear the worries of Kallis (2013: 95) about ready-made recipes,[1] and so let me reiterate that the main value of the present research is not to be found in the detail of each policy, to be rigorously followed as a blueprint. Rather, I hope to have conveyed a sense of possibility regarding our cognitive ability to explore radically different degrowth futures. Put another way, the value is not in the *what* (the policy strategy) but in the *how* (the rationale and method of inquiry). To return to the cooking metaphor that was mentioned at the outset of this part, if the menus of Chapters 9, 10, and 11 were not enough to whet your appetite, I do hope that Chapter 12 was enticing enough to make you go to the kitchen and cook your own degrowth cake.

But careful: my call for policy precision should not be misunderstood as a valid delay for action. It would be a mistake to think that a degrowth transition should be perfectly crafted on paper before it can start in reality. Degrowth is a political project, not a spaceship. In fact, as I have shown in Part II, degrowth is a utopia precisely because it is a desire in movement. Most of what a transition is about should be figured out *during* the transition; if autonomy is to be preserved, it shall remain an inevitable fact of any degrowth future. This is why this part was not about reaching a distant, precise destination (e.g. how much time will be spent working in 2054 or how many local currencies will there be) but rather about how to take the first couple of steps. Not a Google Earth itinerary but a few tips on how to get out of a bustling city. Once the doors of the prison of growthism are broken open, there will be plenty of time – literally after work time reduction – to discuss the ins and outs of life in a degrowth society.

I should also offer another disclaimer: the tool is not the task. Focusing too much on policy details runs the risk of letting the *how* question smother the questions of the *why* and *what*. For example, in discussing how to finance an autonomy allowance, the risk is to lock the proposal within the boundaries of what is considered socially possible today. The struggle should not be directed towards reforming the banking sector, introducing local currencies, or shortening the workweek, but rather towards regaining control over economic life following principles of autonomy, sufficiency, and care. The fact that one may disagree with Piketty's (2013) global tax on capital does not make his analysis of inequality less accurate. Likewise, even if Part III produced no useful insights whatsoever, this would not make economic growth less problematic (Part I) nor degrowth less desirable (Part II).

After these five long chapters on policymaking for degrowth, I want to offer a number of insights for those who would want to carry that work forward.

First, it is important to remember that, with or without the involvement of degrowthers, policies are being crafted every day. The conundrum is therefore the following: participate in policymaking while giving up revolutionary ideals or stay true to such ideas and refuse to partake in the discussion. I think that choice should be refused in favour of a third option: to engage in policymaking with the goal of introducing revolutionary reforms. Both tactics and strategy are important. Tactics are the everyday battles, the opportunities of the moment. Maybe

[1] "To our knowledge, no one in the degrowth community talks about 'optimal degrowth plans' […] tentative degrowth proposals are personal 'doxai,' opinions in Castoriadian terms, to be deliberated by the participants and society at large. They are not 'solutions' or planning recipes" (Kallis, 2013: 95).

a specific government like Switzerland or France develops an interest in basic income, or a specific producer cooperative rises in fame, and if so, these opportunities should be seized. This is tactics. And maybe the same government is not at all interested in regulating advertisement, which does not mean that one should discard the idea. Making the best use of opportunities *now* as to achieve a specific objective *later* is what strategy is about. In the game of chess, one should capture pieces only in order to checkmate and not for mere thrill of eating pawns, but the checkmate situation is pre-determined by which pieces one decides to capture. In the same way, one should not wait for a perfect "degrowth moment" before partaking in policy discussions; instead, one should always be present and work to build our way towards such an opportunity.

Second, all of degrowth's eggs should not be put into one basket. Because a portfolio of diverse actions is less likely to fail than a single recommendation, there is little use in trying to select one leverage point that should be greater than all others. We should not say, individual *or* community *or* market *or* State, but individual *and* community *and* market *and* State. Reform can be a stepping stone towards revolution,[1] and revolution itself will need to be reformed in time. A smart strategy for change ensures that there is always one such element standing strong when one or several others lose their bearings. Believing in *leverage point* is dangerous if it entertains the hope of finding optimal, silver-bullet interventions.[2] There is no such thing as a Swiss Army knife-like policy that can achieve all objectives at once; complex and diverse issues require complex and diverse interventions.

But is there such a thing as too many, or too few, policies? There may be a risk in sophisticated policy packages if the failure of one policy brings all the others with it, thus discrediting the strategy altogether. This is the case of *poisonous policies* or policies which, on their own, are unpopular enough to disparage an entire agenda. A vast graveyard of aborted policies is here to remind us about how important communication is. One example is the failure of a €0.90-per-kilo tax on plastic plates and cutlery, which after being announced by the French Minister of ecology in 2008 (Jean-Louis Borloo), was quickly branded as a "picnic tax." Nobody is going to support a policy against picnics; we French people love picnics. This is where policy design matters. A transition should allow for certain policies to fail, which in itself is necessary if policies are genuinely considered as experiments (as I argued they should in order to safeguard collective autonomy). Then the question becomes how to allow certain policies to fail without bringing the entire transition process to a halt – allowing a small forest fire we can learn from in order to avoid bigger forest fires.

Third, the process of change is as important as its outcome. A degrowth transition would not really be a degrowth transition if it was planned in the head of a single player. (This, I am aware, threatens the validity of my own strategy, which was designed in the comfort of one's head.) The ideal of autonomy implies a decentralisation of governance, from highly centralised places such as corporate board rooms, government cabinets, and universities to local town councils, associations, and self-managed workers' cooperatives. A map is of little use if

[1] Wright (2013: 35) perfectly captures this stepping stone approach: "The appropriate orientation towards strategies of social transformation therefore, is to do things now which put us in the best position to do more later, to work to create those institutions and structures which increase, rather than decrease, the prospects of taking advantage of whatever historical opportunities emerge."

[2] A good example of that counter-productive quest for the Holy Grail of policies is the ongoing face-off between proponents of Universal Basic Income and partisans of the Universal Job Guarantee – e.g. Standing (2013) vs. Tcherneva (2013), Harvey (2013) vs. Noguchi (2013).

designed by one lonely cartographer and understood – or agreed on – by no one. In this part, I have drawn them on my own, with the best of my limited knowledge. There is no doubt that the maps would have been infinitely greater should I have been assisted by fellow citizens, politicians, and scholars.

Fourth, one should not take the imaginary part of the transition for granted. Degrowth here faces a chicken-and-egg paradox: the emergence of degrowth societies requires a decolonisation of the imaginary that is itself only possible within a degrowth society. A solution to this paradox is to always keep the left foot of the imaginary in close proximity to the right foot of the real as to not lose balance. Self-managing a company in *reality* may be both a struggle and a hassle at first but contributes to creating the social *imaginary* that makes self-management not only possible but also smoother in practice. Every step forward, be it in the realm of action or thought, involves an uncomfortable leap of faith that ceases to be uncomfortable only when the other foot catches up. Transforming society is a complex dance between visions and actions and relying on either of these alone is doomed to fail.

Fifth, not all changes carry the same level of risk and uncertainty. Certain changes can be considered *fail-safe* if they their collapse does not threaten the integrity of other institutions (imagine an object-sharing network failing versus the Euro failing). There are also certain policies which are supported by different political formations; this is an opportunity to build alliances that will make more ambitious policies possible in the future. Under the threat of climate breakdown and in the midst of social turmoil, it would be foolish not to make use of these opportunities. On the other hand, certain policies do carry significant risks, but that is not a valid reason to cast them aside. The dangers of social intervention should always be weighed against the dangers of non-intervention, keeping in mind that the present is already a dangerous place for many people.

After all, – and this is my penultimate remark – policymaking has more to do with political philosophy than with technical administration. Behind every goal lies a deep question having to do with (1) justice (How equal should a society be?), (2) production (What should we produce and how?), (3) nature (What is our relation with nature?), (4) time (How much time should be spent working?), (5) democracy (How should work be organised?), (6) the purpose of life (Why should we work?), (7) trust (How do we organise trust?), (8) debt (What do we owe to each other?), and (9) the future (How do we relate to the future?). The policymaking that degrowth should aspire must put back these questions at the core of social democratic discussions.

That leaves one last question: Is degrowth unrealistic? Yes, it is and it should be. Simply put, if it is considered *possible*, then it is not degrowth. If it were to sound even remotely possible to the broader public, then it would probably be the sign that it is not revolutionary enough. Of course, it is not actually impossible, as the diversity of alternative practices that I have presented attest, but only appears to be so. Impossibility is the defining mark of all utopias. Degrowthers can be called utopian only because they explore the borders of the unimaginable. They think and act as if it was possible for degrowth to exist and through opposition and brave leaps of social eccentricity, they create the conditions of its own feasibility. Degrowth is, in that sense, an impossible goal but an impossible goal worth having.

In this part, I have made the bet that studying so-called "impossible" reforms would somehow make them possible. Whether I have achieved this goal or not is left for others to

decide. If anything, the problem with degrowth is not that it is too utopian, but rather that it is not utopian enough because it shies away from describing the details of its dreamed futures. Utopian policy design demands thinking and acting degrowth as if it was possible in order to render it possible. Degrowth is what Martin Luther King called “creative maladjustment,” a refusal to adjust to a reality one finds unjust. And this is precisely the task that falls upon us: turning the inconceivable of today into the commonsense of tomorrow.

Conclusions

On arrête tout, on réfléchit et c'est pas triste

THE present study arose out of the supposition that there was something wrong about what we came to call *the economy*. I opened the introduction accusing the growth-based, capitalist economy of deteriorating ecosystems and communities while sustaining a widespread political crisis of imagination. All my efforts throughout this dissertation was an attempt to fight back. My strategy has been the following: showing that a society centred around the pursuit of economic growth is undesirable (**Part I**), demonstrating that another economy was possible (**Part II**), and proving that it was within reach (**Part III**).

Contributions

In the introduction, I cited a number of commentators lamenting that degrowth was "unclear" (Rodríguez-Labajos et al., 2019: 178), "evasive" (Harribey, 2007: 7), "vague" (Schwartzman, 2012: 123), "ambiguous" (Tokic, 2012 cited in Khmara and Kronenberg, 2017: 3), "not explicit enough" (Victor, 2012: 212), "difficult to pin down" (Raworth, 2015), a "conceptual blur" (Fournier, 2018: 97, mt), "logically incomplete" (Berg and Hukkinen, 2011: 158), a "conceptual jumble" (Lievens, 2015: 230, mt), a "loose collection of ideas rather than a well-theorized and formalized concept" (Khmara and Kronenberg, 2020: 3), or "just a cluster of loosely grouped ideas" (Paulsson, 2017: 218) "lacking a coherent theory" (Adloff, 2016).

In the first two parts of this monograph, I clarified the *why* and the *what* of degrowth, hoping that my synthesis would satisfy these commentators' thirst for theoretical precision. If it was unclear why degrowth was necessary, **Part I: Of growth and limits** showed that it is so because of economic growth being no longer possible, plausible, and desirable.

Chapter 1: Understanding economic growth adds to a recent field of scholarship around growth imperatives (e.g. see Richters and Siemoneit, 2019) and contributes to a social-historical understanding of economic growth (Schmelzer, 2016). Its originality is to treat economic growth not only as a real phenomenon but also as an ideology that pervades both institutions and identities, thus becoming a structural feature of modern society. **Chapter 2: Biophysical limits to growth** offered the most developed debunking of the decoupling

hypothesis ever written. With 2019 being the year of review of Sustainable Development Goal n°8 on economic growth, I hope my work will tamper the enthusiasm of decision makers about green growth. In **Chapter 3: Socioeconomic limits to growth**, I created a dialogue between four schools of economic thought (neoclassical, Marxian, ecological, and feminist) around the topic of the secular stagnation. Connecting with recent demands for more pluralism in economics, I showed that the study of growth can be a fertile start to generate useful knowledge about the economy and the impact it has on society and nature. The main argument of **Chapter 4: Social limits of growth** was that it is wishful to expect economic growth to create jobs, reduce inequality, and make people happy. This last chapter has pedagogical merits for that it provides a synthesis of existing social limits of growth arguments.

The added value of this first part is that the three critiques of economic growth are articulated within one coherent framework. Its main message is that economic growth is a treadmill leading nowhere but to the exhaustion of communities and ecosystems. In *Memoirs of Hadrian* (1951), French novelist Marguerite Yourcenar wrote that "one is wrong when one is right too early." This is the story of the Meadows' group in the 1970s and also to the proponents of *décroissance soutenable* (sustainable degrowth) thirty years after that. But perhaps, the time has come to recognise that the point they made still stands: there can be no infinite economic growth within communities whose ability to reproduce themselves is finite and on a planet which is itself finite. Growth as an overarching societal objective is a recipe for disaster. If it is clear that expending the economy is no longer an option, the burden of proof should now change side: let those who believe that growth can and should continue unabated rest their case – Part I is an official invitation to do so.

The critique of economic growth is only part of the story of degrowth. If the Growth society is a dead-end, what should come to replace it? The central proposition set forth in **Part II: Elements of degrowth** is that degrowth is a powerful utopia with the capacity to topple the ideology of growth. Its three chapters approach the idea from different angles with the goal of better understanding the history, nature, and implications of degrowth.

Part of the pervading ambiguity about degrowth has to do with its history. Where does degrowth come from? Today, the great majority of degrowth texts keep referring to the fact that it was André Gorz who in 1972 first spoke of "*décroissance*" in the sense we give to the term today (e.g. most recently, Demaria and Latouche, 2019 or Abraham, 2019: 33), thereby creating confusion as to how and where the term really emerged. **Chapter 5: Origins and definitions** cleared this ambiguity by showing that degrowth, as we understand the term today, was born in France in 2001-2002 as "*décroissance durable*" (sustainable degrowth). This chapter comes to fill an important research gap and is today the only in-depth history of degrowth written in English. With the idea of degrowth now spreading to new countries, I believe it is valuable to learn from the history of *décroissance*, *decrescita*, *decrecimiento*, and *Postwachstum* as to avoid repeating the mistakes of the past.

If degrowth had not been explicit enough about what it was about, **Chapter 6: Theoretical foundations** clarified its nature by describing it as a process of *de-economisation*: a reduction in importance of economistic thoughts and practices. To turn that insight into a theory, I further explained that degrowth stood in promotion of three universal values (autonomy, sufficiency, and care) and that it had a number of institutional implications relating to activities of provision (extraction, production, allocation, consumption, and excretion). I

summarised these implications in 15 principles (see below). If, to some, degrowth sounds like an uncoordinated orchestra with all instruments playing at the same time (the "conceptual jumble" some commentators complain about), the way I have articulated these notions together is my attempt at turning a cacophony into a symphony.

Resource sovereignty: Be a steward of nature

Sustainability: Never deteriorate supporting ecosystems

Circularity: Waste not, want not

Socially useful production: What is not needed should not be made

Small, not-for-profit cooperatives: Planet and people, not profit

Proximity: Produce local, consume local

Convivial tools: Technology as a tool, not a master

Postwork: Work less, play more

Value sovereignty: Wealth is nothing but stories

Commons: Decide together

Gratuity: Communities instead of commodities

Sharing: Sufficiency for all, excess for none

Voluntary simplicity: Outwardly simple, inwardly rich

Relational goods: Less stuff, more relationships

Joie de vivre: If I can't dance, I don't want to be part of your economy

I opened this monograph by claiming that the economy was the beating heart of the interrelated social and ecological crises of today. It is only after reading Chapter 6 that we can grab the profundity of that statement. In a Churchillian manner, one could still say that growthism is the worst form of economy, except for all the others. But I hope my arguments have been convincing enough to show that we are far from having reached the end of history, and that there remain endless possible institutional configurations to be explored in thought and in practice.

This chapter offers three things: a theory for scholars studying degrowth; a framework for educators teaching degrowth; and answers to the many questions that curious and critical readers may have about degrowth. And this is a second invitation, or perhaps provocation, this time to fellow academics: to scrutinise and criticise my synthesis as to move the field towards a better understanding of what degrowth is.

Chapter 7: Controversies tackled a number of misreadings of degrowth. With only a few precedents (Bayon et al., 2010; Latouche, 2011; Kallis, 2018: ch.6), it stands as the most elaborated repertory of degrowth controversies (16 misconceptions and 9 criticisms). If degrowth sounded like an obscure and silly idea before, I hope that it does a little less now. The research field of degrowth is rapidly expanding towards new topics and other disciplines.[1] As

[1] A few examples: in tourism studies (see Higgins-Desbiolles et al., 2019), in geography (special issue on "geographies of degrowth" in *Environment and Planning E: Nature and Space*, see Demaria et al., 2019 for introduction), in critical agrarian studies (see Gerber, 2020), within the environmental justice scholarship (special issue in *Ecological Economics*, see Akbulut

it does so, it is crucial that the concept stands on solid foundations as to avoid wasting valuable time in misinterpretations. The use of the term by scholars outside of the degrowth community is also an opportunity to enrich the concept with new perspectives. But this can only happen if degrowth can be understood clearly and precisely. Chapter 7 provides a solid Frequently Asked Questions about what degrowth is and what it is not.

As for criticisms, degrowth should stay close to its allies and even closer to its enemy. As I hope to have showed, responding to criticisms is a useful exercise for us scholars interested in strengthening the concept of degrowth. Replying to detractors invites new minds to the table and opens dialogues, many of them enriching for both parties involved. Several of these dialogues have occurred during the years I have been writing this thesis and I hope many more will follow its publication.[1]

Degrowth yes, but how? The final part of the degrowth story had to do with the achievement of the society that degrowth promises. Divided in five chapters, **Part III: Recipes for degrowth** translated the values and principles of degrowth into operational transition strategies. Its central claim is that degrowth is a powerful conceptual tool to think about societal transformations for social-ecological justice.

Tackling the *how* question was necessary. All too often, commentators bemoaned that degrowth "lacks solutions" (Schindler, 2016: 824), "concrete examples" (Natale et al., 2016: 49), "concrete policy proposals" (Schneider, 2017), and "a policy agenda" (Barth et al., 2019). Degrowthers, they argue, forget to specify "the how" (Rumpala, 2009: 166), miss "the key element" of "how to achieve systemic change" (Barlow, 2019), only offer "woolly propositions" (Beau-Ferron, 2015: 165, mt) or "fragile strategies" (Ott, 2012: 572), and remain "vague concerning means of action" (Bartkowski, 2014) and "perspectives of realisation" (Exner, 2014: 12). I agree with them. The governance of a degrowth transition is "under-researched" (Nyblom et al., 2019: 2) and "very few attempts have been made so far to operationalize degrowth" (Khmara and Kronenberg, 2020: 3), which is problematic for those hoping to see real change happen.

To improve our policy toolbox, we must first know what is in it and this is the purpose of **Chapter 8: Strategies for change**. So far, only Cosme et al. (2017) enquired to inventory degrowth policy proposals. In the same spirit, I added 163 new policy elements to the 69 listed by Cosme and her co-authors, making it the largest repository of degrowth policies (full list of policies available in Appendix 5). I applied the same process to the public policy consultation process that followed the birth of the French Yellow Vests Movement. Studying the entries of the *Grand Débat National* (2019), I identified 420 demands made in the name of degrowth

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et al., 2019 for introduction), in organizations studies (special issue on "theoretical perspectives on organizations and organizing in a post-growth era" in *Organization*), and in health studies (a called for paper released in October 2019 for a special issue on "health and degrowth"). One could also point to conferences that are opening to the topic: not only the *European Society for Ecological Economics* who is treated as an unofficial degrowth conference by degrowth scholars, but also the 16th annual conference on historical materialism taking place in November 2019 in London with a number of degrowth-related contributions. Finally, the recent books *Pluriverse: A Post-Development Dictionary* (2019) and *Degrowth in Movement(s)* are good examples of how degrowth is increasingly juxtaposed to other concepts.

[1] Let me here point to the most recent: Stirling (2016a, 2016b, 2016c) versus Kallis (2016); Kallis (2019) versus Huber (2019); Finley (2018) versus Kallis (2017b); De Grauwe (2016) versus Demaria (2016); Hopkins (2016) versus Vansintjan and Bliss (2016); Hickel (2017) versus Milanovic (2017a, 2017b); Hickel (2019a) versus Pinker (2019); Browne (2019) versus Hickel (2019b); Hickel (2019c) versus A. Giridharadas and A. Gurib-Fakim; Jackson (2019) versus Liebreich (2019); Tucker (2019) versus Liegey (2019); Ryan (2019) versus Paul (2019); Burton and Somerville (2019) versus Pollin (2018); Grainger (2019), Gwynne (2019), Foramitti et al. (2019), Dale (2019), Carson (2019) and Trainer (2019) versus Phillips (2019); Abi Chaker versus Juch (2020).

(available in Appendix 6). These lists are now available for policymakers in search of inspiration or for academics interested in further study.

Arguing that the available degrowth programmes were too vague, sometimes incongruent and incoherent, and often poorly structured – in short, not good enough for application – I have extended my enquiry to devise my own. I decided to focus on three themes that are currently under-studied in the degrowth literature: property (**Chapter 9: Transforming property**), work (**Chapter 10: Transforming work**), and money (**Chapter 11: Transforming money**). The outcome is a policy agenda for degrowth including 9 goals, 31 objectives, and a diversity of policy instruments that I gathered in 9 bundles.

Sharing possessions
max. income, max. wealth, basic income

Democratic ownership of business
social enterprises

Stewardship of nature
eco-limits

Work time reduction
work time reduction

Decent work
self-management

Postwork
job guarantee

Monetary diversity
alternative currencies

Sovereign banking
sovereign money

Slow finance
limits on financial transactions

This agenda answers the "yes, but how" question. Operationalising degrowth means pursuing these nine goals and their objectives via the implementation of the diverse policy instruments detailed in their associated bundles. I have made these proposals as tangible as possible by designing them specifically for France and by illustrating them with realistic numbers and concrete examples.

Now is a particularly fitting time to sharpen degrowth's policy tools. During the first Post-Growth conference at the European Parliament in September 2018, organiser Philippe Lamberts (MEP for the Group of the Greens) promised participants another such event in the Spring of 2020. As I am writing these words, the newly formed think-tank ZOE (Institute for Future-Fit Economies) is compiling a repertoire of policy proposals to enable effective lobbying for economies without growth. Next year, a thematic degrowth conference on "Strategies for Social-Ecological Transformation" will be held in Vienna, inviting scholars and decision makers to discuss the precise same issues I have considered in this part.

There is also an unprecedented opportunity. The idea of a Green New Deal is rising in popularity, which is a chance to discuss policymaking for social-ecological justice – one that has already been seized by a number of degrowthers (e.g. Hofferberth, 2019; Mastini, 2019; Dale, 2019; Kallis, 2019b; Vansintjan, 2019). Of course, the agenda is not in our favour and the recent publication of *The European Green New Deal* by the European Commission reminds us that growthism is still alive and kicking.[1] And yet, this is the topic of the moment and we degrowthers should bring our sharpest insights to the table. (This is already happening, for example, with the Green New Deal for Europe initiative, which included degrowth-inspired proposals in its September 2019 report *A Blueprint for Europe's Just Transition*.)[2] Let us then understand the third part of this monograph as a kind of *Green New Deal* designed based on the aspirations of degrowth.[3] With the degrowth movement entering the advocacy sphere, the policies it offers must be well-designed and convincing. Chapters 9, 10, and 11 provided an example of how to do that, one example that I hope will be followed by many more.

Following the recipe analogy, the ingredients are now selected but the cooking remains. **Chapter 12: Transition strategy** took this final step and showed how the individual policies could interact together in one coherent transition strategy. This is a response to all of those who deplored the lack of "credible scenarios" (Prieto and Sim, 2010: 133) and "coherent implementation strategies" (Weiss and Cattaneo, 2017: 226). Detractors who complained that degrowthers should "devote much greater attention to political subjectivity and strategy" (Barca et al., 2019: 6) and study the "dynamics of change" (Vandeventer et al., 2019: 273) with a specific focus on "synergy potential" (Koch, 2013: 13), "systemic interconnections" (O'Rourke and Lollo, 2015: 251), and the "appropriate articulation and structuring" of policy agendas (Vergragt, 2010: 80).

In this chapter, I have addressed this weakness by developing a method to study policy interlinkages. The method consists of four steps: (1) decomposition of each bundle of policy instruments into a hierarchy of specific changes; (2) comparison of each policy in terms of

[1] Not only does the agenda assumes that it is possible to decouple economic growth from resource use (European Commission, 2019: 2) but it also defines itself as "a new growth strategy for the EU" (ibid. 23), "an opportunity to put Europe firmly on a new path of sustainable and inclusive growth" (ibid. 2). In the continuation of what has been done in the past decades, the *European Green Deal* shows no willingness to reduce production and consumption.

[2] Even though the document does not use the term "degrowth," it is clearly leaning towards it. "The Green New Deal for Europe must not further a destructive 'green growth' agenda" (GNDE, 2019: 3.1), pointing to "economic growth that delivers a declining share of wealth for labour and increasing destruction of the environment" (ibid. 3.31), "the prevailing economic growth model in countries through the Global North is premised on extraction […] from the Global South" (ibid. 3.4). The five uses of the term "economic growth" are critical towards it (compare this to the two uses of the term in the European Commission's Green New Deal agenda, which are both positive).

[3] Degrowthers will find much to disagree with the *European Green New Deal* proposed by the European Commission. And yet, I still believe we must not give up on that opportunity; I wholeheartedly agree with Otto Wolf and Mueller (2019) when they write, "we need to hijack the Green New Deal, not reject it. After all: what else is there?"

timing, compatibility with the existing legal and cultural infrastructure, popularity, stakeholders and scale of implementation, as well as risks; (3) study the expected impacts of policy interactions with the help of Causal Loop Diagrams; and (4) design of couplings between each instruments to improve the effectiveness of the strategy as a whole.

I used this method to turn my policy agenda into a policy *strategy* where the design of each intervention is informed by how it interacts with all the others. If degrowth's aspirations for change were dismissed as a laundry list of vague wishes, this cannot longer be so, especially after showing that all the elements to turn degrowth into a useful transition plan are available. This exercise raised new questions about the social dynamics of a degrowth transition while proposing a number of specific design features that could improve the synergy potential between existing policies. The outcome of this chapter is a policy map to facilitate the work of decision makers willing to operationalise degrowth in reality.

With recent developments in the field of ecological macroeconomics,[1] including the building of new computer-simulated models, it becomes possible to test richer scenarios. This has already been done (e.g. twice for France: D'Alessandro et al., 2018; Briens, 2016), albeit with scenarios that are, in my view, too simple (mostly because they rely on existing data, themselves bound to reductive indicators such as GDP, unemployment, and Gini-measured inequality). Consider the *Sustainable Prosperity Scenario* from Jackson and Victor (2019): a future (2067) with zero emissions where people work 1450 hours per year, where the Gini coefficient will have dropped 0.2 points, and where debt to GDP is slightly higher than today.[2] So long for the inspiring utopia.

The present work supplies raw materials to make more complex scenarios. These include social-ecological aspects that are of primary importance, like autonomy at work, gender equality, or emotional attachment to a local currency, even though they may be difficult to measure. What remains to be done is to adapt existing macroeconomic models (or create new ones) for them to be able to process these variables (in parallel to encouraging empirical research to measure them). Together, models made by experts and scenarios imagined by citizens could produce valuable knowledge, in addition to being an opportunity to democratise discussions about the economy.

A critique alone is not enough for a revolution; and neither is a blueprint, or a transition plan. But put together, these three elements solve the problem that motivated the writing of this dissertation; it restores our collective capacity to imagine life outside of a present and future made solely of economic growth.

Limitations

This dissertation is not devoid of contradictions, silences, and inconsistencies. Now comes the time to point to several of its limitations and try to propose future research avenues.

[1] See Jackson and Victor (2019) for one of the most advanced model, and Hardt and O'Neill (2017) for a review of the field.
[2] The most radical scenario of Jackson and Victor (2019: 46-47) – the "sustainable prosperity scenario" – implies a carbon price, green investments, electrification of road and rail transport, moratorium on non-renewable electricity generation (after 2025), a reduction of income inequality (Gini-measured), a slower rate of population growth, and a decline in the average hours worked.

Part I: Of Growth and Limits

Part I might disappoint both degrowthers who think I may have taken too much of an economic approach and my fellow economists who may think I have become a sociologist of some sort, or worse, a philosopher. With hindsight, I notice a number of ontological inconsistencies (e.g. between the neoclassical and Marxian treatment of the secular stagnation or feminist and ecologist critiques of exploitation), which is no surprise in a text that draws upon so many divergent perspectives. While I treated **Part I** instrumentally, more as a warm-up for **Part II** and **Part III**, a few logical riddles remain.

An apology is due to readers who were expecting more concerning the study of economic growth in **Chapter 1**. Being an introductory chapter, I contented myself with a broad-brush treatment of several questions that would warrant more careful analysis. I will here name a few: the underlying causes of economic growth, the development of neoliberalism and its impact on economic governance, global relations of dependence between North and South, other economistic indicators than GDP, and a broader discussion about the historical development of capitalism. A particular point that would have necessitated more space is the invention of the economy, among other general reflections on what is the economy. If I cut the discussion short in that introductory chapter, this is only because this question is the fundamental query of this dissertation as a whole.

The careful reader will notice a slight dissonance between **Chapter 3** and **Chapter 4** and the rest of the thesis. I wrote these chapters at the beginning of the PhD and without much knowledge about what degrowth was (I had the opportunity to rewrite **Chapter 2** during my last year but the other ones remained pretty much the same). With the opportunity to rewrite **Chapter 3**, I would be more critical of the secular stagnation discourse, in both its neoclassical and Marxist denomination. Whereas it was my ambition to connect these discussions to the feminist crisis of reproduction and degrowth in general, I realise the two threads share the chapter without much interaction.

Reading **Chapter 4** today, I realise that my discussion on employment, inequality, and well-being is perhaps too narrow. In the employment section, I commit to definitions that I am now, after having written Chapter 10: Transforming work, more critical about. The section on inequality could – and I realised today, should – have included one about poverty. The well-being section is the one I am most content with, even though it could have been improved by better distinguishing between *hedonic* and *eudemonic* well-being (something I did in Chapter 7: Unhappy? The wellbeing critique).

Part II: Elements of Degrowth

I introduced **Chapter 5** as a *conceptual* history of degrowth; not a history of degrowth ideas but a history of the word "degrowth." I only deviated from that rule to provide some peripheral developments that I deemed necessary to understand the history of the term (e.g. the *Limits to Growth* report, Sicco Mansholt's letter, Herman Daly's work). But one may wonder why presenting the work of Herman Daly and not the one of Marilyn Waring? And in the French scene, why paying attention to Gorz's *Écologie et liberté* (1977) while neglecting the equally rich *Écologie et féminisme. Révolution ou mutation ?* (1978) of Françoise d'Eaubonne? I have selected the authors who are most often cited in the history of degrowth as told by degrowthers

themselves, but that history would gain in value if it were to include a diversity of authors, and especially women, whose work has been – and still is – marginalised.

Additionally, my history ignored Switzerland, one French-speaking country with an ancient and still active (even though small) degrowth community. To my great regret, it is only late in the PhD that I managed to get hold of the paper version of *Moins!* (the main degrowth periodical in Switzerland). With information difficult (if not impossible) to access online, I decided to leave that country out of the analysis.

Even in the countries that I did cover, I ended up excluding most of the material gathered during personal interviews. Here is what I realised: telling each national story would make the history chapter disproportionately long, so I opted for a more synthetic approach. (I also felt uneasy about writing using texts I could not myself understand – I am well versed in English and French, read Spanish with some difficulty, and understand the tiniest bit of Italian; but I cannot read a word of German.) For better or for worse, I settled for summaries, postponing the writing of a more substantial history of degrowth for a future collaborative project.

Here is perhaps my last opportunity to offer a disclaimer about the "theory" of degrowth from **Chapter 6**. I have already warned that this was only one among many other possible interpretations of degrowth. I am not arguing for *one* definition or theory of degrowth but for *better* definitions or theories of degrowth. Perhaps, the monograph should bear the instruction "burn after reading" (one would perhaps today say *recycle after reading*) if only to remind readers that this is compost for future thoughts and not a sacred scripture. Besides, following the view of history as a dialectical movement between ideology and utopia, the relevance of the present work bears an expiry date. Fast forward a revolution or two, and the precise same study should be repeated, this time with scholars starting with the limits of degrowth (assuming degrowth would have become the new ideology), and then detailing whatever utopia they will see fit to replace it.

But there is another disclaimer. While I have put a lot of emphasis on analytical rigour, I should note that this is a purely scholarly pursuit. I am aware that if degrowth faces strong opposition, it is not because its definition is fuzzy or because scholars have failed to clarify the difference between _____ (insert one abstract concept) and _____ (insert another abstract concept). If degrowth is controversial, it is because of the ideological character of Growth and the power relations that keep it as such. So this monograph is not a manifesto but a work of research, which is primarily addressed to fellow scientists.

Besides, precision is not always desirable. It would be counter-productive – and even contradictory with the autonomy aspect of degrowth – to preserve the intellectual purity of the concept in its usage in the real world. Again, compost not scripture. Whereas there is value in meticulous perfectionism during the development of an idea on paper, one should relax such constraints in the everyday conduct of political affairs (for example, when building alliances with other movements). If history teaches us anything, it is that transitions are as messy as they are unpredictable and that no theory neither can nor should change that fact.

I drew from French and English literature but left out texts in Italian, Spanish, Catalan, and German. While I do not think including them would have changed the way I described growth in **Part I** and degrowth in **Chapter 6**, it would surely have brought new controversies for **Chapter 7**, and perhaps even new policy insights for **Part III**. It would be interesting to study how the same controversies unfold in different regions of the world.

Another limitation of **Part II** is that there is little discussion about other alternative economies. No concept is an island. Degrowth cannot be defined on its own as if existing in an ideational void – degrowth *is* degrowth because it *is not* the Economy for the Common Good, Participatory Economics, or an Economy of Permanence. Investing all analytical hopes into one single, supreme concept runs the risk of remaining prisoner of a single idea. I know this because I actually have written a chapter comparing degrowth to other discourses.[1] As crucial as this task is, the chapter quickly grew to unmanageable proportions, and as any good captain caught in a storm would have done, I had to let it sink. Another project for the future.

Part III: Recipes for Degrowth

The main limitation of the policymaking process conducted in **Chapter 9**, **10**, **11**, and **12** is that it was designed by a single mind. This becomes clear when comparing the length and depth of different sections. **Goal n°9: Slow finance** and **Goal 2: Democratic ownership of business** are short and superficial because this is a field I do not know very well. Readers may wonder what motivated theoretical choices I made concerning these topics; by far the most plausible explanation for such selective picking is my ignorance of other alternatives. I simply did not know. In contrast, I offer more extensive insights on topics I have been researching more carefully over a longer time span (e.g. **Goal n°6: Postwork** or **Goal 4: Work time reduction**).

A diversity of minds is not only a matter of intellectual rigour but also a commitment to democracy. If that exercise were to be done again, I would include a variety of stakeholders at each stage of the process, as to enrich the agenda with the plurality of values that it currently lacks. So next time, let us start that *why-what-how* process (critique, alternatives, and bridge) again but with more people around the table. And when we do this, let us remember that anything I have produced should not be swallowed but chewed. It should not be held as more important than what one community of thinkers and doers would come up with on their own.

As a Masters student, I read about Albert and Hahnel's *Participatory Economics*. I was baffled. How was such a well-thought, sophisticated model never discussed in broad daylight? How could some keep arguing that 'there were no alternative' when the Parecon was precisely that? In the Summer of 2018, I finally got to meet Michael Albert and this was the question I asked him: What went wrong? Why does nobody know about Parecon? I also asked him what he would do differently if he could start all over again. A point he made was that he should have included a broader set of stakeholders in the design of his model. More flexibility, he said. In one of his latest books, he repeats that advice.[2] I carried this insight with me preciously in the final year of writing the dissertation – *inflexible strategy means no victory*. I was aware of

[1] The chapter categorised discourses as either "allies," "foes," or "false friends." The alliance part included sections on *steady state economy*, *eco-socialism*, *New Economy* (Victor, Jackson, Schor, Raworth), the South American *buen vivir*, the African *ubuntu*, the Indian *economy of permanence*, the French *Économie Sociale et Solidaire*, *Economic Democracy*, *Parecon*, *Inclusive Democracy*, *The Simpler Way*, the *Economy for the Common Good*, the *Not-for-Profit World*, *Transition Towns*, and the *Eco-village Movement*. In the "foes" part, I wrote about *sustainable development*, *green economy* and *green growth*, *ecomodernism*, *Natural Capitalism*, *Conscious Capitalism*, and *Platform Capitalism*. As for the "false friends," I had a section on *circular economy* and another on *bioeconomy*.

[2] "If you have an inflexible strategy, then you lose if you make a mistake at the outset in conceiving it, since being inflexible means you are stuck with your error. if you have an inflexible strategy, it also means you lose if the forces arrayed against you behave dramatically differently than anticipated, since you will be stuck with a conception that no longer works. If you have a setback or a success that was unexpected, again, you will be stuck with a plan that no longer fits your new reality. Having a flexible, sensible strategy opens the possibility of victory. Not having a flexible, sensible strategy pretty much closes that possibility. Inflexible strategy means no victory" (Albert, 2017: 142).

the risk of armchair theorising and also aware that the degrowth community was definitely not in need of a dogmatic blueprint to follow. All the effort in clarifying my conceptual and operational choices should be seen as an invitation for disagreement.

All the numbers I propose should not be taken too seriously. Looking back at my policy targets now, I find it them unnecessarily uncompromising. If I proposed radical policies (e.g. 100% ceilings, universal allowances, socialisation of all businesses, or limitation of staff at 250 employees), it is only to stretch the radical end to the policy spectrum. Of course, a profit-locked firm is better than the traditional profit-driven corporation, a firm with 400 employees is more likely to self-manage than one with 4,000, and a ban on a few financial products is better than none. Politics is not a precise science – or a science at all. If there is a need for more specialised research on each of these policies as to determine their desirable levels, one should not hold too tight to these speculative estimates.

The focus on France is both a strength and a weakness. It makes degrowth more concrete, with reference to existing initiatives and specific examples, but it narrows down the discussion, making it less relevant to other countries. My strategy throughout **Part III** strived to get best of both worlds. I tried to remain as general as possible on the level of the principles while providing concrete – and often numbered – examples.

Furthermore, I felt that the scale of analysis was sometimes inadequate. While it is fine to discuss sovereign money and wealth taxation at the national level, other changes would have benefited from a more contextual framing at the city or regional level. With hindsight, the city level is, in my view, the best fitted to discuss degrowth (even though it would also include nation-wide policies).

With the opportunity to start anew, I would focus on more precise policy themes. Property, work, and money is a pleasing triad for scholars, but it would have little currency among mayors, commoners, and politicians. Instead, I would build an agenda around the twenty or so themes I used to categorise the degrowth policies in Chapter 8 (agriculture, energy, transport, inequality, health, and so on).

French readers may be disappointed that I did not use the method of **Chapter 12** to elaborate scenarios for France. It felt unwise to do so without specific stakeholders in mind. After opening up policymaking to include households, firms, commoners, and public servants, it became impossible (at least within one PhD project) to imagine a general scenario that would capture all their actions at once. Instead, I developed a method to let stakeholders make the scenarios themselves.

Part III has looked at *policies for* degrowth (what types of policies should be implemented) without paying too much attention to the *politics of* degrowth (the condition of their political and cultural feasibility today). I have assumed that, if I held a protest, everyone would come. I have assumed that the French government is eagerly waiting for the dissertation to be published to question their entire economic strategy (at the time of writing the prospects of it happening look bleak). It does not take a degree in political science to understand how naïve such these assumptions are and it is legitimate to worry that there might be nobody listening to these recommendations. Of course, policy proposals do not settle political struggles, regardless of how detailed and rigorous they are (and even more so if they remain ignored). And yet, I still think there is value in *as-if* policy design, waiting for that discussion to happen

(or rather, hoping that it might make that discussion happen). Only the future will tell whether that belief in self-fulfilling prophecy is strategic or misguided.

More than once in the writing of **Part III**, I realised how useful more empirical research could be. There is no way to know the dynamics of a local currency, employers' opinions about self-directed enterprises, or what would happen during a sovereign money transition. This knowledge simply does not exist. Before being able to properly study degrowth transitions as a whole, we must have access to a diversity of information about each of the individual initiatives. And here lies a perfect opportunity for transdisciplinary science. If policies should be treated as experiments, then the community as a whole should participate in the research. While it would be foolish to embark on a degrowth transition without preliminary reflection (hence the role of academics), it would be as foolish to blindly follow the recommendations of what Ivan Illich would suspiciously call "experts."

Reflections

Most people know from hearsay that the difference between an optimist and a pessimist is that the pessimist knows the topic better. After these four years of studying degrowth, I feel precisely the opposite. It is Antonio Gramsci (1891-1937) that here best captures my current sentiment: "pessimism of the intellect and optimism of the will." I am thinking about the worse in order to prevent it and believing in the best as to move closer to it, drawing on both the "enlightened catastrophism" of Dupuy (2004) and the "principle of hope" of Bloch (1954). Writing this thesis has been a pendulum ride between fearful apocalypse and wishful miracle.

But at the end of it all, one won over the other, and that is the principle of hope. It has been a personal journey of discovery to realise that we are far from the "open society" of Popper (1945) and that even the wittiest study will not suffice to dislodge an ideology. The only force that can burst the dam of growthism is an outpouring of utopian desires. Not meticulous statements about the unsustainability of today (even though these matter too), but wild and extravagant leaps into more desirable tomorrows. Making "hope possible rather than despair convincing" (Williams, 1989: 118). It is in that sense that degrowth is an impossible goal, perhaps, but nonetheless an impossible goal worth having.

And yet, hope and optimism is not enough. We need not only to dream up bold utopias but also dare to believe in them and to make them active shaping forces in the present. Let us remember a famous May 1968 graffiti: "revolution is the *active* passage from dream to reality." Let us dream yes, but let us do so without having to wake up afterwards. The magnitude of the task is unprecedented but its nature is not unknown, standing up against injustice being maybe the oldest of human enterprise. This is the fundamental difference between dream and utopia; the utopia haunts the present, first as a stone in the shoe, and second as a seed in a crack.

Make no mistake. I am not naïvely pleading for a revolution of consciences alone, hoping that society can shift by the mere fact of us *decolonising our imaginary*. The entire system on which the growth society is based cannot simply be thought away, and even if everyone suddenly started to love degrowth, structural forces will remain that makes growth an imperative, starting with the dependency of the welfare State on market activity for its financing. And yet, these structural forces were socially constructed and can therefore be

socially deconstructed. Let us remember, reading the banners of those protesting the 2016 labour reforms in France, that "under the paving stones" always lies a potential "vegetable garden." My point is that without a shift in political priorities, these changes will remain stillborn.

To the risk averse and the fearful, I say that violence is already among us. Another May 1968 graffiti says it all: "A single non-revolutionary weekend is infinitely more bloody than a month of total revolution." Sometimes, the most violent thing to do is to do nothing and thereby legitimate the "slow violence" of the system (Nixon, 2011). The violence of a revolutionary change must always be weighed against the violence of letting the system run exploitation-as-usual, and in the situation we find ourselves in, it is fearfulness that is the greatest danger. Holloway (2011) says let us "stop making capitalism" and I shall not add much: let us actively refuse to reproduce, legitimate, or even stand-by a system that is unjust, whether we think it is capitalism, growthism, productivism, or any other –isms. The only place for an alienating, unjust, and exploitative system is on the pages of history books, aside all the other wrong turns taken in the histories of civilisations to remind us that we are capable of the best and the worse.

To the well-intentioned reformers procrastinating action in wait of "more data" and "better knowledge," I say this is fighting a losing battle. We could spend centuries extracting theories out of the economy like one reads stories in whale bones and coffee grounds (and economists have been pretty good at doing this for the past couple of centuries). We do not need to understand exactly how a nuclear warhead functions in order to know that it should never have been brought into existence. My point is that knowledge should not become an excuse. Let us not be the one "who would not use his legs, but sit still and perish because he had no wings to fly," like in John Locke's (1828) aphorism. Instead, what we need is as simple as what was declared in the film *L'An 01* (1973): "*on arrête tout, on discute et c'est pas triste*" (we stop everything, we discuss and it's a blast).

We are not the first ones to dream and the ghosts of previous utopias are still lingering among us. The universal allowance of Paine (1797), the right to be lazy of Lafargue (1883), the village councils of Kumarappa (1945), the participatory economy of Albert and Hahnel (1991), the global resource dividend of Pogge (1998), the subsistence perspective of Mies and Bennholdt-Thomsen (1999), the diverse economies of Gibson-Graham (2008), the transition towns of Hopkins (2011), figure among countless other subversive ideas. If anything, I hope the present study has turned Mrs Thatcher's famous *there is no alternative* into a new dictum: *there is no excuse to not have an alternative* to the current system.

And, I should add: there is no excuse to not start working on that alternative *now*. Some will say that "change takes time" or that *natura non facit saltus* (nature does not make jumps). Irrespective of whether Nature makes jumps or not (I am sure there is a disagreement among biologists on this), culture surely does: it is called a revolution. We have done it before and we need to do it again. The climate situation, as one crisis among many others, demands an action that is urgent. In these extraordinary circumstances, "Setting a distant target date is like trying to calculate exactly when you should step in while watching a group of small children playing near a cliff edge" (Extinction Rebellion, 2019). Not in a decade, not in two years, not soon, but *now*.

Epilogue

I concluded the introduction of this monograph by inviting you to a wild thought experiment. I have asked you to imagine that, in one year's time, everything would stop, and that at that point, we would have to completely redesign the economy. Believe it or not, but one year has gone by and today is the day it all stops. The thinking has been done, now comes the time for the doing. Because today is a beautiful day for a revolution.

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Appendixes

These appendixes contain various lists of degrowth policies: *3 goals, 39 objectives, and 27 instruments* that Cosme et al. (2017) identified in a literature review of 128 peer-reviewed articles (**Appendix 1**); a compilation of the programmes that the French Degrowth Party (*Parti pour la décroissance*) proposed at six national and European election campaigns between 2007 and 2019, which I organise into *20 themes and 87 policy elements* (**Appendix 2**); the manifesto of the *kohtuusliike* degrowth network during the Finnish national elections of 2019, which I decompose in *3 goals, 22 themes, 18 objectives, and 50 instruments* (**Appendix 3**); a selection of *18 lists* of proposals found in the English and French literature, spanning from 2008 to 2019 (**Appendix 4**); the combination of all these previous lists into one single programme made of *60 goals, 32 objectives, and 140 instruments* (**Appendix 5**); and a summary of demands made by the 540 participants to the French Grand Débat National of 2019, which I structure in *86 goals, 103 objectives, and 231 policy instruments* (**Appendix 6**).

Appendix 1: List of degrowth policies (Cosme et al., 2017)

"What does a sustainable degrowth perspective means in a policy-making context?" It is this research question that animates the "Assessing the degrowth discourse: A review and analysis of academic degrowth policy proposals" of Cosme et al. (2017) where they conduct a literature review of 128 peer-reviewed article on the topic of degrowth published before 2014. Using the discourse analysis software NVivo, the authors classified the proposals in three goals having to do with ecological sustainability, social equity, and conviviality-democracy. I have kept their threefold division (even though I renamed them), and split each element between *objectives* and *instruments*.

Policy goal n°1: **Reduce environmental pressures**

objectives	instruments
1. use of local sources of water 2. invest in renewable energy 3. reduce production 4. organic farming and sustainable agriculture 5. simpler technologies 6. promote eco-efficiency 7. limit trade distances and volume 8. reduce the number of scientific conferences 9. voluntary reduction in commerce and trade 10. changes in consumption patterns 11. decrease the consumption of objects 12. reduce energy consumption 13. reduce material consumption 14. reduce waste generation 15. restore ecosystems 16. compact cities 17. conservation biodiversity	1. moratorium on resource use/extraction 2. caps on resource use/extraction 3. tax extraction of resources 4. tax resource use 5. remove harmful extraction subsidies 6. stop investing in car infrastructure 7. moratorium on new infrastructure 8. ban harmful activities & technologies 9. incentives for local production 10. strong social and environmental provisions in trade agreements 11. tax on consumption 12. limit/regulate advertising 13. caps on CO_2 emissions 14. tax environmental externalities 15. certify organic farming based on CO_2 16. finance conservation projects

Policy goal n°2: **Reduce inequality**

objectives	instruments
1. better social security 2. more green jobs 3. less unemployment 4. eliminate debt-based money 5. turn banking into a public service 6. redistribute wealth	1. universal basic income 2. work sharing 3. job guarantee 4. ecological tax reform 5. alternative currencies 6. maximum income

7. break up private monopolies 8. more alternative ownership models 9. promote recognition and management of the commons 10. less tax evasion	7. progressive taxes 8. encourage small, local enterprises 9. tax international movements of capital 10. regulate tax heavens 11. put a price on social and environmental externalities

Policy goal n°3: **Democracy**

objectives	instruments
1. more public investment 2. promote value change 3. strengthen local communities 4. more sustainability education 5. preserve ancient knowledge 6. decentralise decision-making 7. more shared living spaces 8. reduce working hours 9. frugal, downshifted lifestyles 10. recognise unpaid, informal activities 11. alternative to GDP 12. recognise common possession regimes	

Appendix 2: Degrowth party list of policies

The French *Parti pour la décroissance* (Party for degrowth, mt) was created in 2006 (see Chapter 5 for more details). Since then, it has participated in six campaigns: legislative in L2007, L2012, and L2017; and European in E2009, E2014, and E2019 ("E" stands for European elections and "L" for legislative elections). The following list is organised in 20 themes and contains 87 policy elements. All translations are mine.

1) Democracy

- citizen conventions to make choices about production (E2019)
- real democracy (direct democracy, citizen-initiated referendums, randomly-selected representatives, promoting self-government; create randomly selected popular assemblies with a right of veto to run in parallel to every assembly of elected representatives (L2012, L2017, E2019)
- regulate lobbying (E2009)
- ensure the independence of medias (E2009)
- invent a local democracy (*démocracie basée sur des bassins de vie*) (L2017)
- redefine the status of elected representatives as to prevent consecutive campaigning and careerism (L2017)

2) Advertisement

- ban, tax, or limit advertisement, (L2007, L2017, E2009, E2019)

3) Consumption

- individual carbon quotas (E2019)
- ban or tax luxury (E2019)
- ban or tax toxic products (E2019)
- reduce the global consumption of objects (L2017)
- gratuity of socially useful and ecologically responsible goods (L2012)
- the decommodification of satisfiers of basic needs (E2009)
- gratuity of decent levels of consumption (*du bon usage*) and of land (L2012)

4) Science and technology

- ban research on nanotechnologies (L2012)
- ban or tax mind-numbing technologies (E2019)
- democratic control of research, re-oriented towards social and ecological objectives; moratorium on techno-scientific research and support of socially useful technologies (L2007, E2009, L2012)
- orientate research towards convivial tools (L2017)
- raise awareness about the sprawl of technologies (*déferlement technologique*) (L2017)
- oppose the supremacy of digital technologies at school (L2017)

5) Food

- restore peasant agriculture (L2007)
- ban research on GMO (L2012)
- food sovereignty (E2014, L2017)
- guarantee a right to gardening through land re-appropriation of municipalities (E2019)
- relocalise industrial and agricultural activities (L2017)
- agricultural reforms (E2009)

6) Education and culture

- stimulate the creation of relational goods (L2007)
- reform agricultural education on the basis of local permaculture (E2019)
- emancipation of education from the culture of competition, rivalry, and consumption (L2012)
- making intellectual autonomy the goal of education (E2009)
- support for the diversity of European culture and oppose the imperialism of the English language (E2014)

7) Business

- ban or tax supermarkets (E2019)
- favour cooperatives and small companies (L2017)

8) Energy

- reduce energy waste by a factor of four (L2007)
- reduce the global consumption of energy (L2017)
- stop nuclear, both civil and military (E2009, L2012, L2017, E2019)
- ban research on biofuels (L2012)
- energy savings (E2009)
- stop fossil fuels (E2014, L2017)
- a shift towards local renewable energies (E2014)

9) Urbanism

- reform suburban housing (*habitat pavillionaire*) for small and medium, shared housing space (L2012)
- opposition to the urbanism of large cities (E2014)
- stop Large Useful Projects (*Grands Travaux Inutiles*) (L2017, E2019)

10) Trade

- relocalise (L2007, L2017, E2009, L2012)
- exit trade agreements (L2017, E2019)
- social and ecological tariffs (E2019)
- reduce imports (L2017)

- substitute cooperation agreements to free trade agreements (E2014)

11) Geopolitics

- cessation of foreign interventions in Libya, Mali, Syria, and Central African Republic) (E2014)
- refuse the exploitation of other people and of their resources; stop the destruction of territories in the name of development (L2012, L2017)
- reform international organisations such as the WTO, IMF, and the WB. (E2009)

12) Green fiscality

- ecological tax reform (E2019)
- decrease military and advertising budgets (L2012)

13) Transport

- reduce transports by internalising the costs with appropriate eco-taxes (L2007)
- tax on kerosene and cargo and truck fuel (E2019)
- ban or tax sport cars (E2019)
- favour slow modes of transportation, re-open train stations, harbours, trams and bus lines (L2017)
- gratuity of public transport (L2012)
- escape the car era by developing public transport as well as walking and biking infrastructure (E2009)
- liberation of territories from the hegemony of the car (L2012)

14) Money and finance

- take money back (*se réapproprier l'argent*) (L2007)
- support local currency (E2019, L2017)
- monetary sovereignty (E2014, E2019)
- exit the Euro (L2017)
- nationalise the banks (L2017)
- fighting the financial oligarchy (L2017)
- cancel illegitimate debts both in the South and in the North (L2017)

15) Population and immigration

- integrate climate and resource refugees (E2019)
- renounce natalist and pro-demographic growth policies (L2017)
- oppose the "freedom of movement" discourse (L2017)

16) Inequality

- fair redistribution of resource; reduce inequality (E2014, L2017)

- maximum income (E2009, L2012, E2019)
- universal basic income (L2012, E2009)
- 1-to-4 ratio between lowest and highest wages (L2017)
- youth allowance starting age 18 (L2017)
- same retirement allowance for all (L2017)
- remove economic rents, e.g. from incomes from capital and land (L2017)

17) Work

- re-allocate productivity gains into work time reduction and job creation (L2007)
- work time reduction, e.g. 4-day week (L2012, L2017)
- right to part-time (L2012, L2017)
- redistribution of undesirable work (L2017)

19) Environment

- return to a sustainable ecological footprint (L2007)
- preserve the diversity of ecosystems and species (L2017)
- pollution quotas (E2009)

20) Waste

- forbid planned obsolescence (L2017)
- guaranteed return and spare parts, e.g. for 10 years (L2017)
- durable products (E2009)

Appendix 3: Finnish list of policies

This is a list of policies proposed by the Finnish degrowth network (*kohtuusliike*) during the 2019 campaign for national parliamentary elections. It was sent to the different candidates and gathered 169 signatures across 11 political parties – 13 candidates who had signed the manifesto were elected into office. The text below is in English but the translation is rough – I do not speak Finnish and so I used Google Translate. (For more information, see the article that the Finnish degrowth network wrote on *degrowth.info*, "Finnish degrowth activism in the run-up to the two 2019 elections.")

Goal 1: Consumption and production at a reasonable level

1) Production and business control

1. Tighten taxes on production that burden the environment.
2. Ecological sustainability is taken as the basis for the distribution of industrial and agricultural subsidies.
3. Expanding emissions trading to a greater extent and significantly reducing the price of emissions.
4. Taxing the production of hardly recyclable materials, which will be tightened over time.
5. The materials that are made to be recycled in production can be banned.
6. Support producers' own repair shops and readmission programs, for example, by taxation and subsidies.
7. Encourage employee cooperatives
8. Taxation to discourage stock exchange listing. Listed companies divest a large part of their autonomous decision-making power to international capital markets, making them more difficult to act as pioneers of sustainability.
9. Tighten corporate responsibility legislation, for example, in the # 1 chain campaign.
10. Reduce the production of weapons

2) Erosion

11. Commodity loans and sharing economy platforms are supported.
12. loans may be private or established by libraries.
13. Workshops are supported by taxation.
14. Taxing consumer products that exceed basic needs will be tightened according to the ecological burden.
15. Experimenting with personal emission quotas for example in traffic (see experiment in Lahti https://www.uia-initiative.eu/en/uia-cities/lahti)
16. Import duty is based on the environmental impact of the entire life cycle of the imported goods (including destruction).
17. Support for the transition to more environmentally friendly heating systems and the conversion of old cars to biogas.

3) Reduction in working hours

18. Shortening the working week. Losses in man-hours will be closed by hiring more employees. The experiment can be started in public sector areas where a shorter working week is particularly desirable. Shorter public sector working hours may also encourage the private side to follow suit. A short week of work can also be part of a job security program.

4) Energy

19. Small-scale and community-based production of clean energy and community crops are supported. The support may be financial or associated with zoning or licensing.
20. Support energy-saving solutions and intelligent electrical systems that reduce energy demand.

5) Transport

21. Taxation and tolls are encouraged to get out of car driving in cities.
22. In return, a public transport network that is as broad as possible and affordable for the user is offered. Passenger cars are counted while being electrified, so subsidies for electric cars are not enough.
23. In particular, the electrification of essential transport such as public transport, sparsely populated areas and business cars is supported, for example, by taxation and charging points.
24. In order to curb the growth of air traffic: either
    a. the airport charge will be raised,
    b. the flight tax will be created, or
    c. the number of flights passing through Finnish airports will be directly restricted.

6) Food

25. Ecological sustainability as the basis for agricultural subsidies.
26. The basis for food taxation is the climate-friendly nature of the production, which would make the products produced in an environmentally burdensome way more expensive and more environmentally friendly.

7) Construction and zoning

27. Building regulations ensure that new buildings are as climate-friendly as possible.
28. Reduce the concentration of public services, making it easier to locate production.
29. The Environmental Impact Assessment (EIA) will guide the emphasis on climate impacts, especially in long-term infrastructure projects.

8) Income tax

30. Reduce income tax progression from the end of the highest income so that in practice maximum income will come to Finland.

9) Household and corporate indebtedness

31. Private debt is being curbed High debt burdens may prove impossible to pay when economic growth slows, which would cause very serious and widespread economic problems. Indebtedness is curbed by: for example,
    a. adequate household income and good public services.
    b. Public investment banks and public loan guarantees are ways to curb the risks posed by debt.

10) Advertising

32. Restricting or partially prohibiting the advertising of non-ecological products and services such as air travel. For example, advertising for products harmful to health is already being restricted.

Goal 2: Sustainable for all

11) Taxes and subsidies

33. Taxation and subsidies ensure that the reduction in material consumption and rising prices for some products do not burden people unfairly. The fall in consumption should not be the responsibility of the poorest.
34. The tax base is secured by eradicating tax avoidance.
35. Experimental budgeting methods are being tested.

12) Social security

36. An adequate basic income for all enables a shortening of the working week, a safe exit from the work that burdens the environment, and retraining. The basic income can be financed, for example, from the tax on fossil fuels or other harmful taxes, thereby increasing the acceptability of the harmful taxes.
37. Home care for children under 3 years of age is supported more than is currently the case.

13) Public jobs

38. In the ecological transformation and exodus, the supply of work changes. Those who are unemployed are offered useful job opportunities in ecological reconstruction. This can be done, for example, as a work guarantee.

14) Public services and facilities

39. Stopping privatization of the military sector.
40. Basic services are provided free of charge to the user. For example, in exchange for lower earnings after deduction of working time, people must have opportunities for leisure, not based on consumption. These include: libraries, parks, group facilities, and forest trails.
41. Schools, kindergartens, hospitals and nursing homes offer environmentally friendly and healthy plant-based food to enable everyone to eat.

Goal 3: Ecological reconstruction, now

15) Financing for reconstruction

42. Private investment in fossil-intensive projects will be prevented. In this case, blocking fossil investments is also being encouraged to encourage private capital channeling into greener projects.
43. The state can direct private investments into sustainable projects, for example. by funding research and development in key sectors, securing loans and investing in key sectors themselves.
44. No state money for fossil infrastructure. No new runways. No new highways.
45. However, if private capital does not lead the way in reconstruction, the amount of public debt cannot be an obstacle to the necessary investment. In this case, the conditions for an EU public sector debt ceiling should be renegotiated or flexible.
46. The role of the European Investment Bank will be increased to implement ecological reconstruction.
47. A 'development bank' can be set up in Finland, which finances sustainable infrastructure at a low cost and guarantees private reconstruction projects.
48. More than EUR 200 billion of the Finnish occupational pension scheme will first be diverted from all fossil investments and then to support ecological reconstruction.
49. The European Central Bank can contribute to the financing of ecological reconstruction if its mandate is renegotiated.

16) Instruments

50. Social development is measured by other indicators than GDP and employment. The goal of economic policy is well-being and sustainability, and the economy is not worth it.

17) Urban and regional planning and construction

51. New fossil-intensive building projects are blocked in zoning and licensing.

52. No more space for car traffic.
53. Planning more space for renewable energy - revenue from production can be shared with locals, which increases the acceptability of projects.

18) education policy

54. The retraining program provides a skilled workforce for planning and building ecologically sustainable infrastructure. Retraining also provides a safety net when old jobs that are harmful to the environment are lost.
55. Pupils and students are prepared for the future by emphasizing human dependence on natural resources and natural systems. At the same time, the conditions for adapting to climate change, sustainable life and well-being are discussed.

19) EU and trade

56. The EU's Stability and Growth Pact is transformed into a Stability and Welfare Agreement, as proposed by more than 200 researchers last autumn. The new agreement would not define economic growth as a policy objective, allow the role of public funding to increase ecological sustainability and focus on welfare instead of economic statistics.
57. In the transformation of business, economic and trade policy is coordinated with other states and the EU, so that ecological sustainability does not endure the underdog.

20) innovations

58. In addition to technological innovations, the time of ecological crises requires social innovation. We need to find new sustainable ways to live together and be good in Finland. Experiments on new social systems such as
    a. local currencies,
    b. co-operatives, and
    c. community projects

    are encouraged to: through public investment and grants.

21) forests

59. The amount of protected forest is increased.
60. Used for forest construction, not fuel. Encourage the growth of large trees required for wood construction.

22) Administration

61. A 'Ministry of Ecological Reconstruction' will be established. The ministry's task is to plan reconstruction and take a stand on the environmental impact of investments and political decisions, and whether or not decisions will help to rebuild.

62. Establishing a climate minister and ministry to work as a coordinating planner between different actors.

Appendix 4: Individual authors, list of policies

This document compiles 18 lists of degrowth policies from different authors in the French, English, and German degrowth literature. I have tried to keep the same structure as in the original documents, even though I have sometime split what was considered one policy into several. Only in the final list (Appendix 5) will I break down these demands following the categories of *means* and *ends*. For ambiguities, I refer readers to the original texts in the bibliography of Part III. I have ordered them chronologically and I have personally translated all French texts to English (this is a quick and careless translation).

Cheynet (2008: 112-13, mt): 10 propositions

Vincent Cheynet is one of the co-creator of the concept of "décroissance durable" (sustainable degrowth). This list that can be found in his book "Le choc de la décroissance" (2008: 112-13); it comes from his campaign as a degrowth candidate at the 2007 legislative elections in France.

1. Liberate media from the power of corporations and dismantle advertising companies
2. Relocalise the economy
    a. fiscal incentives
    b. tariffs
    c. creation of stringent qualitative standards
    d. promote small businesses, artisanship, cooperatives, and organic peasantry
3. Dismantle of transnational corporation, franchises, and large supermarkets
4. Progressive exit from the civilisation of automobile
    a. develop regional trains instead of high-speed trains
5. No more fossil fuels (coal, oil, uranium…)
    a. promote energy sobriety
    b. promote renewable energies
6. The end of pavilion housing and cities larger than 300,000 inhabitants
7. Progressive introduction of a maximum income (set at 4 times the minimum wage)
8. Interdiction to own more than two dwellings
9. Democratic supervision of research towards social and ecological objectives
    a. ban GMO, nanotechnologies, and nuclear energy
10. The end of professional sport, to be replaced by amateur sport
    a. Ban motorised sports and leisure

Latouche (2009: 68-76): "an electoral programme for degrowth"

This list of policies can be found in Latouche's "Farewell to growth" (2009: 68-76). It is introduced as such: "the virtuous circle of de-growth could be triggered by some very simple and apparently almost trivial measures. The transition to a de-growth society can be described in a quasi-electoral programme that summarises a few points the 'common sense' implications of the above diagnosis" (ibid. 68).

1. Get back to an ecological footprint smaller than one planet by cutting consumption (transport, energy, packaging, advertising)
2. Apply eco-taxes to account for the pollution caused by each activity, especially in transport

3. Relocalise activities
4. Revitalise peasant agriculture
5. Transform productivity gains into a reduction in working hours and job creation
6. Encourage the 'production' of relational goods such as friendship and neighbourliness
7. Cut energy waste by a factor of 4
8. Impose heaving penalties on advertisement spendings
9. Declare a moratorium on technoscientific innovation
10. Global tax on financial transactions, transnational profits, a global wealth tax, a tax on carbon emissions and a tax on highly active nuclear waste

AdOC (2009, mt): "Proposition for a serene and convivial degrowth"

The Association d'objecteurs de croissance or *AdOC (Association of Objectors to Growth) is a French degrowth initiative launched in 2009. The list below is the outcome of a deliberative forum held on September 19th in Beaugency, France.*

1. Relocalise: housing, mobility, production, distribution, exchange, decisions.
2. Encourage and legislate local currencies and other non-speculative systems of local exchange
3. Unconditional Autonomy Allowance (*Dotation Inconditionnelle d'Autonomie*)
4. Maximum Income
5. Gratuity of public services
6. Gratuity of basic necessities resources (e.g. water, land) and progressive taxation after certain thresholds of consumption
7. Escape the society of overconsumption
8. Renounce the cult of technique
9. Emancipate education and culture from competition and rivalry
10. Establish a real democracy
    a. reduce advertisement
    b. relocalise politics
    c. sets short, non-repeatable, and revocable political mandates

Degrowth declaration (Degrowth Barcelona, 2010)

This list is the outcome of the second International Conference on Degrowth for Ecological Sustainability and Social Equity, held in Barcelona in March 2010. What came to be referred to as the "Barcelona Declaration" was produced via a participatory process (Group-Assembly Process or GAP) and is the first "official" list of degrowth proposals.

1. Facilitation of local currencies, gradual elimination de fiat money and reforms of interest
2. Promotion of small scale, self-managed not-for-profit companies
3. Defence and expansion of local commons and establishment of new jurisdictions for global commons
4. Establishment of integrated policies of reduced working hours (work-sharing) and introduction of a basic income
5. Institutionalization of an income ceiling based on maximum-minimum ratios
6. Taxation of bottom-up approaches
7. Abandonment of large-scale infrastructure such as nuclear plants, dams, incinerators, high-speed transportation

8. Conversion of car-based infrastructure to walking, biking and open common spaces
9. Taxation of excessive advertising and its prohibition from public spaces
10. Support for environmental justice movements of the South that struggle against resource extraction
11. Introduction of global extractive moratoria in areas with high biodiversity and cultural value, and compensation for leaving resources in the ground
12. Denouncement of top-down population control measures and support of women's reproductive rights, conscious procreation and the right to free migration while welcoming a decrease in world birth rates
13. De-commercialization of politics and enhancement of direct participation in decision-making.

Prieto and Sim (2010: 67-69, mt): "the practical guide of the 'good degrowther'"

The following list appears in the 2010 book "Consommer moins pour vivre mieux ? Idées reçues sur la décroissance" (Consuming less to live better? Received ideas about degrowth).

1. Reduce needs (eat less meat, repair objects, save energy)
2. Consume local (living close to work, avoid planes and cars and favour public transport)
3. Self-production (vegetable patch, renewable energy, henhouse)
4. Avoid extravagant gadgets
5. Rethink waste (compost, sort, recycle, give to second-hand shops)
6. Give back meaning to one's life (reduce working time, decommodify and slow-down leisure)
7. Favour humans over machines (avoid television and video games, meet face to face, share)
8. Inform yourself (read the classics of degrowth and keep oneself updated on the news and latest research)
9. Communicate (debate, write articles, share experiences with others)
10. Remain autonomous (be critical and trust your gut feeling)

mpOC's (2012, mt): "New Social Pact"

The Mouvement politique des objecteurs de croissance (mpOC) is a Belgium degrowth movement created in 2009. The "nouveau pacte social" (new social pact) is the outcome of a deliberative process within the movement. (The initial document was divided into 6 themes. (1) Embrace solidarity fully, (2) broaden fundamental rights and duties, (3) push the social frontier, (4) reinforce social protection, (5) ensure local solidarity through the development of non-commercial public services, and (6) enable everyone to better assume their citizenship.)

1. Enshrine planetary boundaries in both national and international constitutions
2. Job sharing
3. Universal basic income (*revenu inconditionnel d'existence*)
4. Maximum income
5. Progressive income tax
6. Capital tax
7. Eco-tax against non-local, non-environmentally friendly products
8. Universal basic services (social security, education, energy, water, etc.)
    a. more social housing
    b. retrofit social housing to ecological standards
    c. rent price control
    d. financial incentives for ecological retrofitting

    e. obligation of *mixité sociale* in housing projects
9. Nationalisation of public utilities (water, heating, electricity, transport)
10. Progressive tax on consumption
11. Generalised work time reduction
12. Promote convivial tools
13. Promote small, local companies with intermediaries (especially for agriculture)
    a. do so by selective subsidies to businesses
14. Promote do-it-yourself skills
15. Promote object-sharing
16. Incentivise to reduce fossil consumption
17. Invest in community-owned renewable energy
18. Organise democratic institutions for decision-making regarding all these choices
19. Create a National Bank that grants interest free loans
20. Local currencies with demurrage
21. General social security at the European level
22. Individualise social security
23. Simplify the administrative system
24. Ban all advertisement for consumption credit and games of chance
25. Giving all responsibility to lenders in the case of non-repayment of consumption loans
26. Forbidding all forms of advertisement in public places
27. Fight planned obsolescence
28. Develop collective utilities and their services, making them available to poorest households
29. Promote and support *Groupement d'Achat Solidaires* (GAS), SEL, *Réseaux d'échanges de savoirs*, *Donneries*, *Prêteries*, *Serviceries*, *Friperies*, shared gardens, and all initiatives having to do with shared consumption.
30. Strict regulation on packaging, which should only contain information
31. Introduce a civic service
32. Guarantee access to information, education, and training to all

Videira et al. (2014): "a set of degrowth proposals"

In a peer-reviewed article titled "Improving understanding on degrowth pathways: An exploratory study using collaborative causal models," Videira et al. (2014) take a systems analysis perspective and draw Causal Loop Diagrams (CLD) to explore the complementarities between nine degrowth proposals. The list is the outcome of two short workshops involving around 20 participants in total.

1. House sharing
2. Work sharing
3. Resource sanctuaries
4. Moratoria on large infrastructures
5. Restrictions to advertising
6. Limits to international trade
7. 100% reserve banks
8. Localised cooperatives
9. Max-min income levels

Pueyo (2014: 3467-69): "9 measures as a recipe for degrowth"

At the end of his article "Ecological Econophysics for Degrowth" (2014), Salvador Pueyo (Institut Català de Ciències del Clima, Barcelona) proposes a list of policies. "Here, I follow some suggestions for the kind of measures that we might need to apply accompanying the removal of environmentally unsustainable activities […]. Recipes like these would probably prevent crises triggered by the reduction of throughput itself" (ibid. 3467-69).

1. Dismantle undesirable infrastructures and build needed ones (e.g. renewable energy installation, organic agriculture, clean production and transportation)
2. Conserve genetic information in agricultural landraces and traditional knowledge
3. Generate a structure of incentives and disincentives
4. Be selective in public rescues of endangered firms
5. Dismantle private monopolies
6. Universal basic income and strong public services
7. Promote democracy in the workplace (e.g. co-operatives)
8. Regulate working time according to needs
9. Change the credit system
    - debt audits
    - stricter rules on interests (remove compound interest)

Kallis and R&D (2015): "10 policy proposals for the new left"

This list is offered by Giorgos Kallis (professor in political ecology at the Universitat Autònoma de Barcelona) in the name of Research & Degrowth (R&D) in an online article titled "Yes, We Can Prosper Without Growth: 10 Policy Proposals for the New Left." The author introduces the list with the following words: "In what follows we present 10 proposals that we wrote for the context of Spain and Catalunya, and which we submitted to progressive political parties such as Podemos, the United Left, the Catalan Republican Left, CUP or Equo."

1. Citizen debt audit
2. Work-sharing (at least 32h)
    - facilitate job sharing
    - loss of salary from working less only affects the 10% highest income bracket
3. Basic (400-600€) and minimum income (30 times the basic income, 12,000-18,000 monthly)
4. Green tax reform
    - carbon tax
    - 90% tax rate on highest incomes
    - capital tax
    - inheritance tax and high taxes on property that is not meant for use (e.g. 2nd or 3rd house, large estates)
5. Stop subsidizing and investing on activities that are highly polluting
    - reduce to 0 subsidies/investment for private transport infrastructure (e.g. new roads and airport expansions), military technology, fossil fuels or mining projects
    - invest in public and urban space (e.g. squares, traffic free pedestrian streets)
    - subsidise public transport and cycle hire schemes
    - support small scale decentralised renewable energy
6. Support the alternative, solidarity society
    - subsidies, tax exemptions and legislation to support not-for-profit co-operatives

- facilitate the de-commercialisation of spaces and activities of care and creativity

7. Optimise the use of buildings
    - stop the construction of new houses
    - rehabilitate exiting houses
    - facilitate the full occupation of houses
        - high tax on abandoned, empty and second houses
        - social expropriation of empty housing from private investors
8. Reduce advertising
    - set very restrictive criteria for ads in public spaces (e.g. Grenoble)
    - establish committees to control the quantity and quality of advertising
    - tax advertising
9. Establish environmental limits
    - absolute and diminishing caps on CO2 and resource use
10. Abolish the use of GDP as indicator of economic progress

Alexander (2016): "policies for a post-growth economy"

This list comes from a working paper at the Melbourne Sustainable Society Institute of the University of Melbourne. Its author is Australian degrowth scholars Samuel Alexander.

1. Explicit adoption of post-growth measures of progress (e.g. GPI)
2. Reduce overconsumption via diminishing 'resource caps'
3. Working hour reductions (e.g. 28h)
4. Rethink budget spending for a post-growth transition
    - divestment from fossil fuels
    - investment in green infrastructure (e.g. public transport and bike lanes)
5. Renewable energy (transition to 100%)
    - reduce energy demand (via education campaign)
    - carbon tax
    - moratorium on the cutting down of old growth forests
    - planting trees to sequester carbon
    - reduce meat consumption
6. Banking and finance reform
    - State creating banking and finance systems that do not require growth for stability
    - debt jubilees
7. Population policies
    - reduce unplanned pregnancies
        - create a global fund for education, empowerment, and contraception
    - abolish all financial incentives that encourage population growth
    - command-and-control such as 1 or 2 child policies
8. Reimagining the good life beyond consumer culture
    - public relations campaign that challenges consumerist lifestyles
    - minimise exposure to advertising
        - e.g. ban all outdoor advertising like in Sao Paulo
9. Distributive justice
    - universal basic income
    - negative income tax
    - progressive income tax policies (e.g. top at 90%)
    - wealth tax (3% transfer from rich to poor)
    - estate taxes (90%)

Perey (2017: 214): "positive steps for de-growth"

Robert Perey is a researcher at the Centre for Management and Organisational Studies at UTS Sydney. He offers this list in a chapter titled "De-growth" in the edited book "Positive Steps to a Steady State Economy" (2017).

1. Measure quality of life based on human relationships and not quantity of consumer capital
2. Prioritise the local (decision-making, energy, food, waste) with the objective of becoming self-sufficient
3. Reduce working hours
4. Implement a social wage
5. Expand community-defined volunteer work
6. Redistribute resources within and across communities
7. Extending the practices of direct democracy

Rigon (2017): "policies for degrowth"

Andrea Rigon is lecturer at the Bartlett Development Planning Unit, University College London (UCL). He provides this list in an online article (titled "Degrowth Politics and Policies for Degrowth") on the blog degrowth.info.

1. Making banks liable for the environmental impact of their credits (social/environmental impact assessment)
2. Shifting taxation from labour to material consumption
3. Cutting taxation on labour-intensive services with low energy throughput and consumption of nature
4. Taxing pollution, energy and nature embedded in products (tariffs)
5. Linking international trade agreements to frameworks on climate change and consumption of nature
6. Reducing working hours
7. Implementing an inheritance cap (e.g. 10 million €)
8. Implementing bank holiday if the weather is good
9. Implementing ecological footprint product and service labelling (e.g. in % of your daily fair ecological footprint allowance)
10. Implementing reparability scoring
11. Removing VAT from repairs
12. Changing social norms and the imaginary of a well-being
13. Changing social norms on consumption
14. Reducing advertisement (e.g. Sao Paulo, Grenoble)
15. Implementing measures to change small daily behaviours
    - fees on plastic bags
    - car-free days
16. Incentivising clean air and new urban mobility
    - low speed areas
    - congestion charges
17. Regulating the reduction of packaging
18. Increasing taxes on flights (European Carbon-based Flight Ticket Tax)
19. Investing in non-commercial public spaces

Kallis (2018: 127): "A degrowth policy package"

Giorgos Kallis is a Greek professor in political ecology at the Universitat Autònoma de Barcelona. This list is from his book "Degrowth" (2018) – from "Chapter 5: The utopia of degrowth" in the section "Policies and actions."

1. Abolishing GDP and replacing it with other indicators of human and ecological well-being
2. Reduce working hours for job-sharing
3. Universal basic income or guaranteed bundle of public services
4. Redistributive taxation, maximum income
5. Redirecting public investments from the private sector to the public, and towards green infrastructure
6. Environmental limits and taxes to finance low-income groups.

Ariès et al. (2018, mt): "degrowth initiatives"

Paul Ariès is a French political scientist. He is the lead author of the short online document where this list of policies come from ("Appel: bientôt il sera trop tard… Que faire à court et long terme ?", or in English "Call: soon it will be too late… What is to be done today and tomorrow?").

1. The end of Large and Useless Infrastructural Projects (e.g. airport extensions, F1 Grand Prix)
2. Reduction of working time
3. Generalisation of commons and gratuity (public transport, school cafeteria, cultural and funerary services)
4. Reduction of income and wealth inequality
5. A broadening of democratic in the direction of more autonomy

Open-letter for post-growth (2018): "changes to end the growth dependency"

On September 16th, 2018, parallel to the Post-growth conference at the European Parliament, an open-letter signed by 238 academics titled "Europe, It's Time to End the Growth Dependency" was published in more than 20 online medias, translated in 20 languages.

1. Limits on resource use
2. Progressive taxation
3. Gradual reduction of working time
4. Carbon tax
5. Universal basic income
6. Maximum income
7. Constitute a special commission on Post-Growth Futures in the EU Parliament
8. Incorporate alternative indicators into the macroeconomic framework of the EU and its member states
9. Turn the Stability and Growth Pact into a Stability and Wellbeing Pact.

Hickel (2019a): "5 first steps to make degrowth happen"

Jason Hickel is an anthropologist from Swaziland based at Goldsmiths, University of London. This list come from an entry on his personal blog, which he titled "Inequality and the ecological transition."

1. Abandon GDP as a measure of progress
2. Scale down throughput
    - progressive taxes on resource use, emissions, and waste
    - caps on resource use, emissions, and waste
    - extended warranties on all material products
    - legislate a 'right to repair'
    - introduce law against planned obsolescence
    - ban advertising in public places
    - prevent supermarkets from trashing food
    - impose fees on food waste
3. Shorten the working week: and job-sharing
    - job-sharing
    - increase hourly wages with a living wage policy
    - introduce a UBI
4. Expand universal social goods:
    - public healthcare
    - rent controls
    - public housing
    - public transportation
    - access to public parks and recreational
    - or (instead of all of that): UBS
5. Distribute income more fairly:
    - high marginal tax on top income (e.g. 80%)
    - or maximum wage policy
    - wealth tax
    - financial transaction tax
    - close down secrecy jurisdictions
    - global minimum corporate tax (to wipe out tax evasion)

    use these taxes (all the one in the 5 steps):
    - fund renewable energy infrastructure
    - UBI
    - invest in public goods
    - democratise workplaces
    - encourage co-operative ownership

Vansintjan (2019): 5 policies

This list of policies come from an online article signed by degrowth scholar Aaron Vansintjan ("Degrowth vs. the Green New Deal," published by Biarpatch).

1. Reduce the working week and support companies to facilitate job sharing between employees
2. Ecological tax reform, taxing expenditure and polluting activity instead of income. High taxes on income from capital and inheritance.
3. Rehabilitate existing housing stock, with high taxes on empty homes and speculation
4. Reduce advertising, with strict criteria for advertising in public spaces

5. Basic and maximum income

Schmelzer and Vetter (2019): 5 proposals

The original book being in German ("Degrowth / Postwachstum zur Einführung"), I am basing myself on a book review written in English (reference is Stegehuis, 2020 in the bibliography of Part III).

1. Phase out and reconstruct sectors, do not let production and consumption be determined by the market, repoliticize the discussion about the economy.
2. Democratize the economy, promote the solidarity economy and commoning.
3. Convivial technology and democratization of technology development.
4. Revaluation and redistribution of work.
5. Social security, redistribution and maximum income.

Appendix 5: Final list of degrowth policies

The following list is my attempt to compile all the previous policy agendas into one. The programme is structured in 19 themes, each including *goals* (numbered: 1, 2, 3 etc.), *objectives* (lettered: a, b, c, etc., and sometimes bulleted), and *instruments* (lettered: a, b, c, etc., and sometimes bulleted). In total, it contains 232 policy proposals, which I divide in 60 goals, 32 objectives, and 140 instruments. A note of caution: this list was compiled for analysis and should not be considered an operational policy programme for degrowth.

Theme 1: Consumption

1. Less advertisement
    a. ban advertisement
        - in public spaces
        - for certain products
            - for consumption credit and games of chance
            - air travel
            - products harmful to health
    b. tax advertisement
    c. regulate advertisement
        - establish committees to control the quality and quantity of advertising
        - strict regulation on packaging which should only contain information
        - decrease of advertising budgets
2. Reduce material consumption
    a. tax on luxury products
    b. progressive tax on consumption
    c. public relation campaigns that challenge consumerist lifestyles
    d. support all initiatives having to do with shared consumption
        - promote object sharing, Donneries, Prêteries, Serviceries, Friperies, shared gardens

Theme 2: Education and culture

3. More relational goods
    a. emancipate from competition and rivalry
        - the end of professional sport, to be replaced by amateur sport
4. More individual autonomy
    a. make intellectual autonomy the goal of education
    b. oppose the imperialism of the English language
    c. introduce a civic service
    d. Free education, information, and training
5. More education on sustainability
6. Strengthen local communities
7. Preserve traditional knowledge

Theme 3: Energy

8. Reduce energy consumption
    a. promote eco-efficiency
        - smart grids
9. Save energy
    a. reduce energy waste by a factor of 4
10. Stop nuclear energy

11. Stop fossil fuels
12. More renewable energy
    a. support local, community-run renewable energy provision
        - subsidies
        - licencing
    b. subsidies for changing heating system
    c. subsidies for biogas cars
    d. subsidies to electric cars

Theme 4: Environment

13. Reduce environmental pressures
    a. progressive taxes on resource us, emissions, and waste
        - carbon tax
        - extraction tax
        - tax on nuclear waste
    b. moratorium on resource use
    c. caps on resource use, emissions, and waste
        - individual carbon quotas
    d. ecological tax reform
    e. ban or tax toxic products
    f. ban on motorised sports and leisure
    g. divest from extractive projects
        - divest from fossil fuel
            - from pension schemes
        - divest from mining projects
    h. ecological footprint labelling for goods and services
14. Preserve the diversity of ecosystems and species
    a. legislate rights to nature in the constitution
    b. invest in biodiversity conservation projects
    c. create resource sanctuaries
    d. moratorium on the cutting down of old forests
    e. planting trees to sequester carbon

Theme 5: Food

15. Sustainable agriculture
    a. promote peasant agriculture
    b. promote organic farming
        - certify organic farming based on CO_2 emissions
    c. reform agricultural education on the basis of local permaculture
16. Food sovereignty
    a. guarantee a right to hardening through land re-appropriation of municipalities
    b. relocalise agricultural activities
17. Reduce meat consumption
    a. vegetarian menus in schools, kindergartens, hospitals, and nursing homes

Theme 6: Geopolitics

18. Less military activity
    a. cessation of foreign intervention in Libya, Mali, Syria, and Central African Republic
    b. shrinking of military budget

19. Less colonial extraction (i.e. refuse the exploitation of other people and of their resources)

Theme 7: Governance

20. Make democracy more participative/direct (decentralise decision-making)
    a. citizen conventions to make choices about production
        - randomly selected, popular assemblies
    b. citizen-initiated referendums
    c. short, non-repeatable, and revocable mandates for elected representatives
    d. participatory budgeting
21. Regulate lobbying
22. Ensure the independence of the medias
23. Reform international organisation (WTO, IMF, WB)
    a. constitute a special commission on Post-Growth Futures in the EU Parliament

Theme 8: Housing and regional planning

24. More shared living spaces
    a. less large suburban single hours, more small and medium shared housing
    b. interdiction to own more than two dwellings
    c. tax on property
    d. obligation of social diversity in housing projects
    e. social expropriation of empty housing from private investors
25. Socially useful and ecologically sustainable infrastructure
    a. stop 'Grands Travaux Inutiles' (Large Useless Projects)
    b. more ambitious environmental standards for new constructions
    c. retrofit housing to environmental standards
        - financial incentives
26. Affordable housing
    a. more social housing
    d. rent controls
27. Small cities
    a. oppose the urbanism of large cities

Theme 9: Indicators

28. Abandon GDP as a measure of progress
    a. incorporate alternative indicators into the macroeconomic frameworks of the EU and its member states

Theme 10: Inequality

29. Reduce poverty and inequality
    a. cancel illegitimate debts both in the South and in the North
    b. global wealth tax
    c. progressive income tax
    d. capital gain tax
    e. global minimum corporate tax
    f. inheritance tax
    g. maximum income
    h. living wage

i. universal basic income
j. same retirement allowance for all
k. remove economic rents (capital and land unearned incomes)

Theme 11: International trade

30. Limit international trade
    a. exit trade agreements
    b. reform trade agreements
        - into cooperative agreements
        - strong social and environmental provisions
            - link with climate change agreements
    c. social and ecological tariffs
    d. reduce imports
    e. creation of stringent qualitative standards
    f. regulate the tourism industry
31. Relocalise activities
    a. incentives for local production and consumption
    b. reduce number of international scientific conferences

Theme 12: Money, banking, and finance

32. Monetary sovereignty
    a. exit the Euro
    b. nationalise the banks (i.e. turn banking into a public service)
    c. create a national bank that grants interest free loans
    d. close down tax heavens, secrecy jurisdictions
    e. improve the legislation on community credit schemes
    f. renegotiate international public debt ceilings
        - turn the EU Stability and Growth Pact to a Stability and Wellbeing Pact
    g. renegotiate the mandate of the European Central Bank
33. More local currencies
    a. support local currencies and other non-speculative local exchange systems
    b. improve legislation for complementary currencies
34. Ethical finance
    a. full reserve banking
    b. social and environmental impact assessment
    c. stricter rules on interest rates
    d. global tax on financial transactions (international capital movements)
    e. give all responsibility to lenders in the case of non-repayment of consumption loans

Theme 13: Population

35. Stabilise population growth
    a. renounce natalist and pro-demographic growth policies
    b. reduce unplanned pregnancies
        - create a global fund for education, empowerment, and contraception
    c. command and control
        - e.g. 1 or 2 child policies
36. Fair treatment of refugees
    a. welcome climate and resource refugees

Theme 14: Production and business

37. Reduce production
    a. of weapons
38. Sustainable production
    a. grant subsidies based on ecological sustainability
    b. tighten corporate social responsibility regulations
39. Small businesses
    a. ban or tax supermarkets
    b. favour small businesses via selective subsidies
    c. dismantle transnational corporations
        - be selective in public rescues of endangered firms
    d. tax on transnational profits
    e. restrict franchises
40. Not-for-profit
    a. subsidies, tax exemptions, and legislation to support not-for-profit businesses
41. Fair competition
    a. dismantle monopolies
42. More co-operatives
    a. favour co-operatives
43. Artisanship
    a. promote artisanship
44. More self-production
    a. promote self-production and do-it-yourself skills

Theme 15: Public services and facilities

45. More public investments
    a. active role of the European Investment Bank in ecological projects
46. Moratoria on large infrastructures
47. Promote the recognition and management of commons
    a. recognise common ownership rights
48. Gratuity of public services (i.e. decommodification of basic needs)
    a. universal basic services
    b. nationalisation of public utilities (water, heating, electricity, transport, military)
    c. decentralise public services
    d. childcare for children under 3
49. Social security
    a. general social security at the European level
    b. individualise social security
    c. simplify the administrative system

Theme 16: Transport

50. Reduce fossil-based transport
    a. eco-taxes to internalise the costs of transports
    b. divest from private transport infrastructure
    c. less cars
        - ban or tax sport cars
        - reduce the number of roads (car-free districts)
        - car-free days
        - congestion charges

d. less planes
    - tax on kerosene
    - flight tax
    - raising airport charges
    - cap on a number of flights passing through each airport
e. less cargos
    - tax on cargo fuel
f. less trucks
    - tax on truck fuel
g. favour slow and green modes of transportation
    - re-open train stations, harbours, trams, and bus lines
    - gratuity of public transport
    - low-speed areas
    - develop regional train instead of high-speed trains
    - develop biking and walking infrastructure

Theme 17: Science and technology

51. Responsible innovations
    a. ban certain types of research (e.g. nanotechnologies, GMO, biofuels, nuclear)
    b. ban or tax certain types of technologies (e.g. weapons)
    c. support for socially useful innovations
52. Democratic research
    a. moratorium on techno-scientific research
53. Convivial tools
    a. orientate research towards convivial tools
    b. raise awareness about technological addiction/dependency
    c. opposite digital technologies at school

Theme 18: Waste

54. Reduce waste
    a. tax non-recyclable materials
    b. forbid planned obsolescence
    c. fees on plastic bags
    d. improve reparability
        - legislate a right to repair
        - remove VAT for repairs
        - subsidise repair shops
        - guarantee return and spare parts (e.g. for 10 years)
        - reparability scoring
    e. prevent supermarkets from trashing foods
        - impose fees on food waste
    f. ban land-fills

Theme 19: Work

55. Reduce working time
    a. re-allocate productivity gains into work time reduction
    b. shorter working week
    c. rights to part-time
    d. implementing bank holidays if the weather is good
56. More green jobs
57. Reduce unemployment

    a. job sharing
    b. job guarantee
    c. re-allocate productivity gains into job creation

58. Redistribute undesirable jobs
59. Expand community-defined volunteer work
60. Recognise unpaid, informal activities

Appendix 6: Degrowth policies at the Grand Débat National

The following list include all the policies proposed in the 540 entries of the *Grand Débat National* that had "*décroissance*" (degrowth) in their title (see *Chapter 9: Policies in Le Grand Débat National*). It contains 86 goals, 103 objectives, and 231 policy instruments, which I present in the same way than in *Appendix 5: Final list of degrowth policies*. The same disclaimer applies: this is data for analysis, not a political programme to be taken to the streets.

Theme 1: Agriculture

1. **organic**
    a. more organic agriculture ("bio" in French)
        - label bio free of charge
        - tax exemption for bio or subsidies
        - tax non-bio agriculture, reduce subsidies
        - make bio obligatory
        - reduce mark-ups on bio products
        - subsidies to permaculture
    b. less pesticides
2. **local**
    a. more personal gardens
    b. more urban gardens
    c. less agriculture d'exportation
    d. more Community Supported Agriculture (AMAPs)
3. **vegetarian**
    a. more meatless alternatives
    b. less meat
        - meat tax
        - meat quotas for rationing
        - forbid meat in certain places (e.g. restauration collective)
4. **seasonal**
    a. less exotic food
5. **sustainable**
    a. less use of fossil fuels
        - ban heated greenhouses and use of plastic covers
    b. less heavy machinery
    c. more animal traction
    d. less fossil fertilisers
    e. more beekeepers
        - subsidies to beekeepers
6. **healthy**
    a. less food additives
7. **convivial**
    a. smaller farms
        - tax exemption for small parcels (e.g. < 15ha)
        - forbid large parcels (e.g. forbid in sales)
        - nationalise large parcels and redistribute (e.g. > 500 ha)
    b. less monoculture

c. more diversified crops
d. less commodifies seeds
    - allow seed sharing
    - ban patents on seeds
    - protect ancient seeds

8. **fair**
    a. less poverty for farmers
9. **just/ethical**
    a. more ethical hunting
        - more controls, more fines
    b. less hunting
        - put the hunting licence back at its initial price
        - forbid hunting (e.g. on Sunday, concerning endangered species)
    c. more animal rights
        - forbid spectacle animals
    d. less intensive livestock farming
        - forbid the production and selling of furs
        - limit the number of animals per farm
        - forbid battery farming
        - stricter laws on the transport of animals
        - forbid *Hallal* slaughter
        - more mobile slaughter houses
    e. less animal trade
        - forbid the selling of animals between private individuals

Theme 2: Extraction

- ban on shale gas extraction

1. **reduce fishing**
    a. regulate international fishing
        - have the UN set a legal status for international water
    b. limit industrial fishing
        - fishing quotas
2. **consume less water**
    - nationalise water system
    - saving water by washing less, watering plant, reduce leakages
    - progressive tax on water consumption
    - recuperate rain water
    - drink water from the tap
3. **reduce consumption abroad**

Theme 3: Production

1. **sustainable**
    - ban dangerous products and activities

    a. pollueur-payeur
        - stop subsidising polluting industries
2. **produce less**
3. **relocalise production**

- tax products based on km
- tax exemption for services de proximité

4. **more self-production, do-it-yourself**
5. **more artisanship**
    a. use less machines
6. **refocus production on needs satisfaction**
    a. produce less weapons
7. **better public services**

Theme 4: Trade

1. **reduce international trade**
    a. reduce imports
        - green tariff
    b. reduce exports (e.g. of waste)
2. **regulate international trade**
    a. less transnational corporations
    b. renegotiate trade agreements
    c. signing out from trade agreements
3. **reduce tourism**
    - promote les vacances à vélo
    - tourism tax based on km
    - relocalise entertainment, spectacles for local tourism
4. **increase made in France**
    - tax offshoring
    - forbid offshoring
    - tax products that could have been produced in France

Theme 5: Consumption

1. **sustainable**
    - labels
    - ban car competition like F1
    - green TVA
    - create a *Ministère des Comportements* (nudge unit, like in UK)
2. **reduce needs**
3. **buy less** (e.g. manufactured products, non-ecological products)
    - tax luxury products
    - forbid promotions and sales (e.g. black Friday)
    - limit the opening hours of shops
    - reduce purchasing power
    - tax bottled water
4. **less advertisement**
    a. regulate advertising
        - tax advertising (e.g. based on product)
        - forbid advertising (e.g. for youth, public space, for fossil products, according to a list of democratically decided products)
5. **local consumption**
    a. less supermarkets

- boycott supermarkets
- tax supermarkets
- limit the maximum size of supermarkets

6. **more sharing**
    - more *ressourceries* to share objects
    - cooperative d'entraides (mutual aid cooperatives)

Theme 6: Disposal

1. **reduce**
    - medicaments à l'unité (sell medicine per unit)
    - forbid the destruction of *invendus* (unsold products)
    - pay garbage by weight
    - ban planned obsolescence
    - standardise products

    b. less disposable products

    c. less packaging
    - forbid packaging
    - tax packaging
    - tax exemption for *vente en vrac* (selling products without packaging)

2. **re-use and repair**
    - allow people to take stuff from recycling centres
    - obligation to produce spare sparts
    - repair cafés
    - repair-ability label
    - legal standard for repair-ability
    - longer product warrantee

    b. more second-hand
    - éco-cycleries, donnons.org

    c. more compost
    - obligation to compost
    - communal, collective compost bins

3. **recycle**
    - consigne pour les emballages (deposit on packages)
    - access to recycling centers free of charge
    - compulsory recycling (with fines)
    - selling points should also be collect points
    - tax to include the cost of recycling
    - national recycling infrastructure

    b. more dry toilets

    c. more recycled products
    - forbid the production of products without recycled materials

Theme 7: Education and research

1. **research on green topics** (e.g. energy, transport, housing)

    a. study nowtopias
    i. facilitate laws for people who want to *vivre autrement* (live alternatively)
    ii. soutien financier pour utopian experiements

    b. listen to scientists

        i. de-commodify scientific research

2. **school education**
    a. education to vegetarianism
    b. technical workshop on eco-citizenship
    c. self-production and repair
    d. stay at farms and in nature
    e. thematic conferences
    f. education to voluntary simplicity
3. **raise awareness** (e.g. with TV spots)
    a. about food waste
    b. about ecological driving
    c. about meat consumption
    d. about climate change
4. **inform the public**
    a. more information about what are taxes used for
    b. publish the French carbon budget
    c. more information about available subsidies
    d. more information about labels
5. **training**
    a. permaculture farmers
    b. how to compost
    c. how to garden
    d. eco-construction

Theme 8: Energy

1. **consume less** (sufficiency)
        - progressive tax on energy consumption
        - personal energy quotas
        - tax credits for low consumers
        - bonus/malus
        - less mails and use of the Internet
2. **save more (efficiency)**
        - conscious behaviours
3. **phase out fossil fuels**
        - rationing fossil fuels
        - yearly carbon quotas
        - close coal power plants
4. **more renewable energy**
    a. cheaper
        - tax exemption renewable
    b. more local
        - increase the price of feed-in-tarriff
    c. more providers like Enercoop
5. **abandon nuclear energy**
        - no more subsidies
        - no new constructions

Theme 9: Housing

1. **less fossil fuel heating**
    - forbid the selling of fuel-based heaters
    - tax credits to change heating systems
    - provide public expertise
    - 0% loans
2. **self-production of energy** (passive houses)
    - impose a passive house standard for all new constructions
3. **chauffer moins**
    - put an extra sweater
    - more frequent, and compulsory, maintenance of boiler
4. **home insulation**
    - financial rewards for insulation
    - a rule that forces insulation before being able to sell or rent
    - de-taxing insulation materials
5. **less new constructions**
    - limit construction permits
    - regulate real-estate prices
    - co-housing
    - limit the size of individual dwellings

Theme 10: Inequality

1. **reduce inequality**
    a. limit high salaries
        - maximum income (e.g. 1:10, 1:12, 1:20)
    b. limit property
    c. tax the rich
        - bring back the ISF (wealth tax)
        - tax dividend CAC40
    d. gender equal pay
        - parity imposed by law
2. **eradicate poverty**
    a. in France
        - free training for the poor
        - more financial help to the poor
        - UBI
    b. in the world
        - give the revenues of ecological taxes as foreign aid

Theme 11: Politics

1. **EU for sustainability (reform)**
    - organise a Grand Débat Européen
    - leave EU if it does not set strong ecological standards
    - European Green New Deal
    - vote green at the European election
    - respect existing European environmental standards

- more democratic Europe (e.g. supprimer le vote à l'unanimité)

2. **limit the power of lobbies**
   - create a lobby-crime
3. **decentralise power, promote local governance and self-organisation**
   - protect whistle-blowers
   - citizen referendums
   - citizen debates (e.g. on ecological issues)
4. **beyond GDP**
   - change the way GDP is calculated
   - include more social and ecological indicators (dashboard approach)
   - include a well-being indicator
5. **reform election system**
   - recognise *vote blanc* (blank ballot paper)

Theme 12: Money, banking, and finance

1. **finance**
   - close the stock market
   - ban high-frequency trading

   a. less speculation
      - Tobin tax
      - forbid speculative banks
2. **money**

   a. more complementary currencies
      - free money, loans with 0% interest
3. **banking**

   a. divestment from fossil fuels
      - higher interest rates on green saving accounts
4. **public finance**
   - allow for an ecological public deficit

Theme 13: Population

1. **stabilise/reduce population**
   - tax children
   - children quotas (e.g. 2-children quotas)
   - condition foreign aid to reduction in fertility

   a. discussing the issue of population
   b. family planning
   c. reforming *allocations familiales*
      - stop them altogether
      - stop them after 2nd child
      - reduce them after 2nd child; stop after 4th
      - evaluate families with more than 3 children
   d. authorise assisted suicide
   e. facilitate and promote adoption
   f. control immigration
      - welcome climate refugees

Theme 14: Transport

1. **better public transport**
    - transport à la demande
    b. develop train system
        - national SNCF et al.
        - re-open night trains
        - increase frequency
        - reach isolated places
        - re-open/maintain small lines
        - punctuality, security, reliability
2. **cheaper public transports**
    - gratuity
    - subsidies for *transports doux*
    - subsidies for transport
3. **more biking**
    a. more/better cycling lanes
        - one cycling lane per street
        - reform the *code de la route* in favour of cyclists
        - car drivers respect bikers
    b. more equipment
        - shower at work
        - safe storage place/parking spots for bike
    c. more public biking schemes
    d. facilitate inter-modalité (multi-transport)
    e. more electric bikes
        - aides à l'achat (subsidy for purchase)
4. **less cars**
    - minimise travels
    - tax cars (e.g. 2nd vehicles)
    - congestion tax
    - free *contrôle technique* for cars with low kms
    - stop the construction of new roads
    - remove parking spaces
    - car-free cities (with free parking on the outskirt)
    - *circulation alternée*
    - reduction speed limits
    a. more car-sharing
        - public website for car-sharing
        - more dedicated spaces for car-sharing (*aires de covoit*)
        - tax people who travel alone
        - prime/tax credit/excemption for car-sharing
    b. more auto-partage (e.g. autolib)
5. **cleaner modes of transport**
    - tax cars based on pollution
    - set a maximum emission level (e.g. 6L/100)
    - promote ferroutage
    - electrical vehicle for public servants
    - ecological driving
6. **less trucks, planes, and boats**

a. less trucks
    - limit the number of trucks
    - tax trucks based on emissions

b. less planes
    - tax planes
    - tax kerosene
    - fly less
    - forbid low-cost airlines
    - stop the construction of new airports
    - forbid national flights
    - tax plane for fun (plaisance)

c. less boats
    - tax boat fuel
    - tax cargo ships
    - tax boat for fun (plaisance)

7. **more walking**
    a. more green zone, *circulation douce*, pedestrian areas

Theme 15: City

1. **more convivial spaces**
2. **more green spaces**
    - green belts around cities
    - annual objectives in reforestation
    - subsidies for reforestation
    - forbid deforestation without expert authorisation
    - vegetalise roofs and walls
    - transform parking in urban gardens
3. **less concrete**
    - tax bétonnage (concreting)
4. **less commercial zones in periphery of cities**
5. **stop urban sprawl**
6. **promote urban exodus**

Theme 16: Work

1. **reduce working**
    a. job sharing
    b. shorter working week
    c. slow commute time (Loi Royal)
    d. forbid Sunday work
2. **slow down the pace of life**
3. **more telework**
    a. open co-working places
    b. right by law to telework
4. **relocalise work (closer to home)**
5. **more green jobs**
6. **reduce unemployment**

a. remove CICE

Theme 17: Private firms

1. **small**
    - limit the size of firms
2. **more not-for-profit**
    - compulsory social ecological accounting
    - taxer les GAFA
    - forbid companies that lay-off workers to distribute dividends to shareholders
    - profit tax
    - tax exemption/subsidies to not-for-profit firms (e.g. Biocoop)
    - public procurement advantage for not-for-profit firms

Theme 18: Environment

- ecocide in law
- giving intrinsic rights to non-humans

1. **respecter les engagements de la COP**
2. **stop deforestation**
    - stop new construction projects
3. **more zones préservées**
    - define *zones géographiques sanctuaires* (resource sanctuaries)
    - more budget for the *associations gestionnaires* (management associations)
4. **protect biodiversity**
    - put a price on fauna and flora

a. less invasive species
b. less traffic of wild animals
    - forbid online trading of live animals
    - forbid importation of hunting trophies if endangered species
c. strategy for big predators (wolves, bears)

Theme 19: Technology

1. **democratic**
    i. moratorium on nuclear fission
2. **low-tech**